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2½"	182 — 500	10 — 600
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6 "	1,165 — 4,140	1,200 — 4,400

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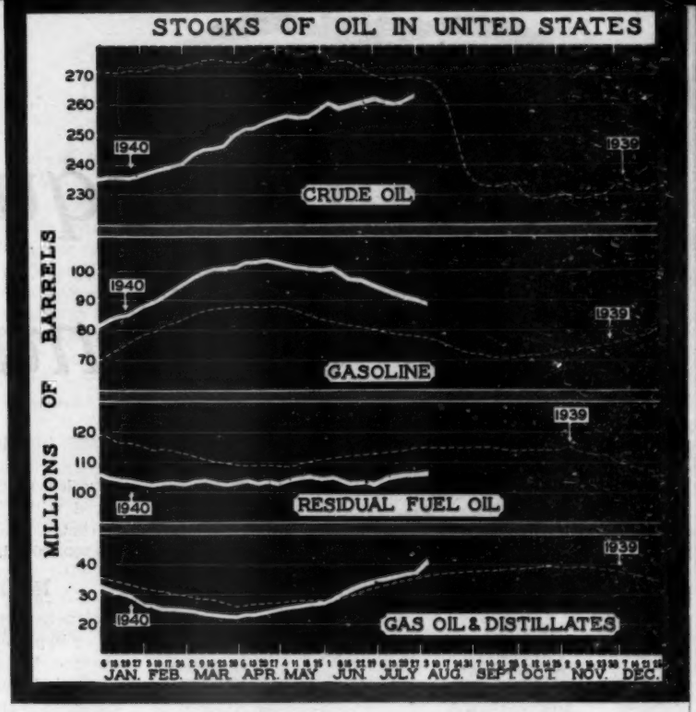
Trends

Outlook for August Improves as Excess Supplies Decrease



THE action of the Texas Railroad Commission Saturday in announcing 2 additional shutdown days for August, the reduced allowables of other southwestern states and the substantial decline in Illinois output over the past month, are encouraging developments to those who are looking forward to improved market conditions over the remainder of the year. Under the proration schedule announced Saturday, Texas will have 9 shut-in days this month, bringing the average base allowable at the start of the month down to 1,194,943 bbl. daily. While this is a reduction of only 41,797 bbl. daily under the allowable at the end of July observers at the Austin hearing said that if this shutdown schedule is carried out without the granting of special allowables, the August production would be at least 65,000 bbl. daily under the July average.

CRUDE PRODUCTION *3,494,217 bbl. daily average—down 194,177 bbl. One year ago 3,675,293 bbl.*

CRUDE STOCKS *262,579,000 bbl. as of July 27—up 983,000 bbl. One year ago 268,513,000 bbl.*

GASOLINE STOCKS *89,492,000 bbl. as of August 3—down 681,000 bbl. One year ago 77,488,000 bbl.*

RESIDUAL FUEL-OIL STOCKS *106,919,000 bbl. as of August 3—up 995,000 bbl. One year ago 115,544,000 bbl.*

GAS OIL AND DISTILLATES *40,448,000 bbl. as of August 3—up 1,467,000 bbl. One year ago 35,488,000 bbl.*

REFINERY RUNS *3,510,000 bbl daily week ended August 3—down 45,000 bbl. One year ago 3,445,000 bbl.*

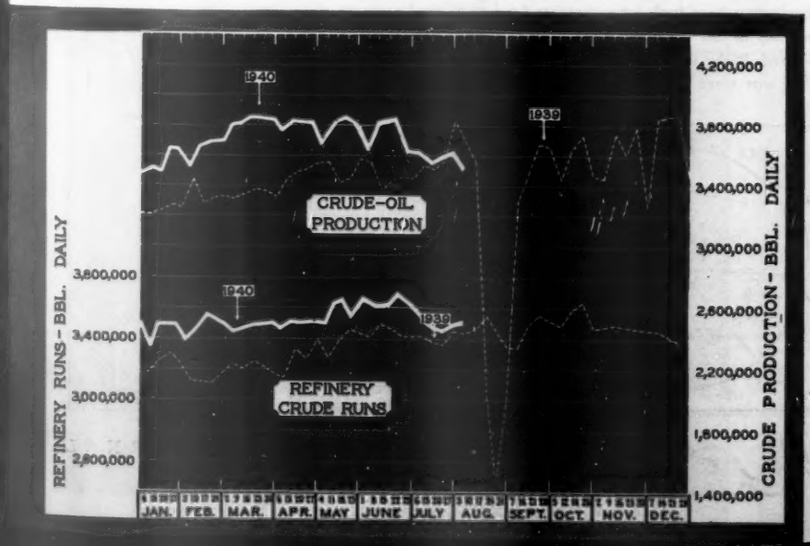
Oklahoma, Arkansas, Louisiana and New Mexico have announced lower allowables for August. While their reductions will not equal the 10 per cent that was recommended by many, they should total around 30,000 bbl daily. Illinois' production last week was 100,000 bbl. daily under the July peak. The active competition for crude connections in that area and the fact that at least two of the larger buyers in the state have indicated their desire to purchase larger quantities in Oklahoma and Kansas are evidences that decreases, not increases, are expected in Illinois production over the remainder of the year.

The need of reduced production in Texas and elsewhere is apparent in the crude-stock reports for the 2 weeks ending July 27, showing gains in national inventories averaging about 80,000 bbl. daily. This has been brought about by reduced refinery operations and further restrictions in exports. It is claimed that the new Texas allowable will take care of the additional adjustments that have been necessary due to further reductions in exports to Europe. In California, the restrictions placed on oil shipments to Japan may necessitate additional curtailments in production and refinery operations before the end of the month.

The action of a major crude buyer in rescinding its reduction in posted crude-oil prices in North Texas and Mexia was the outstanding price development of the week. While the reductions of certain small buyers continue in effect, it is believed that the danger of general price reductions has passed, at least until the results of the present efforts to reduce current production and liquidate excessive gasoline stocks are determined. The next 4 weeks will be the largest domestic gasoline-consuming period of the year. Refiners are hopeful that the reduced crude runs to stills and this peak summer demand will bring substantial improvement in the gasoline-inventory position by Labor Day. There were no important changes in refined markets.

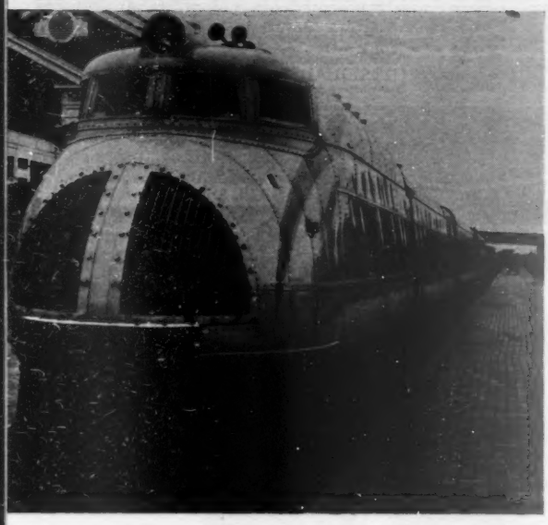
DAILY AVERAGE PRODUCTION FOR WEEK

	Aug. 3, 1940	Bur. Mines Aug. est. of demand	Aug. state allowables	July 27, 1940
Arkansas	72,390	65,200	73,000	72,605
California	591,250	598,400	587,000	605,100
Eastern states	104,200	102,900	.....	107,600
Illinois	408,545	440,600	.....	418,631
Kansas	183,150	166,800	166,800	186,200
Louisiana	280,090	276,100	274,620	275,665
North Louisiana	*63,140*	.....	.....	*63,550*
Louisiana Gulf Coast	*216,950*	.....	.....	*212,115*
Michigan	54,746	57,100	52,000	53,614
Mississippi	10,803	10,300	.....	9,405
New Mexico	106,650	105,200	102,000	106,630
Oklahoma	413,850	402,600	390,000	403,625
Rocky Mountain states	98,650	106,100	.....	95,130
Texas	1,169,893	1,326,400	1,194,943	1,354,189
East Texas	*374,848*	.....	.....	*449,035*
West Texas	*182,598*	.....	.....	*210,928*
North Central Texas	*113,000*	.....	.....	*127,495*
Texas Panhandle	*66,000*	.....	.....	*70,017*
East Central Texas	*72,947*	.....	.....	*78,712*
Gulf Coast Texas	*283,050*	.....	.....	*328,443*
Southwest Texas	*77,450*	.....	.....	*89,559*
United States	3,494,217	3,657,700	.....	3,688,394



Use of Liquefied Petroleum Gas Continues to Increase

By D. H. STORMONT



Union Pacific Railroad Co's. high-speed streamlined train, "City of Salina," is operated by a butane-powered locomotive

FOLLOWING a 35 per cent increase in the sales of liquefied petroleum gas during 1939, present outlook is that this substantial gain will again be equaled in 1940. Sales of liquefied gas during the first half of this year by leading producing and marketing companies have exceeded those in the same period of 1939 by amounts ranging from 25 to 45 per cent, and the average for the whole industry is believed to be slightly in excess of 35 per cent. During the remainder of this year, in view of possible increased industrial demand and higher domestic consumption resulting from the thousands of new customers being added monthly, this level is expected to be at least maintained.

Originally butanes and propane were regarded as waste products and as such were burned, but beginning in 1918 butanes were successfully introduced as fuel for the first time. In 1922, annual sales of liquefied gases reached the total of about 222,000 gal., and since then the yearly figures have rocketed upward, increases of as much as 314 per cent being shown in a year's time. By 1930, annual sales had progressed to over 18,000,000 gal.; in 1936 the 100,000,000-gal. mark was passed. During 1939, according to recent Bureau of Mines figures, the marketed production of liquefied gases totaled 223,580,000 gal., as compared with 165,201,000 gal. in 1938. This year's marketed production is expected to be near the 300,000,000-gal. mark.

Not Necessarily a Byproduct

Liquefied petroleum gases generally are regarded as byproducts of the manufacture of natural gasoline, but their production and marketing in reality is becoming more and more a separate division. As is shown on the utilization charts, about 47 per cent of the marketed production is used for gas manufacturing, industrial fuel, and chemical manufacturing. These are, as a whole, large-volume sales representing little additional expenditure on the part of the companies engaged in manufacturing and/or marketing liquefied gases, other than the necessary added plant facilities for recovering these products.

In the case of domestic use, which last year accounted for 39.2 per cent of the total marketed liquefied gas sales, a somewhat different picture is presented. In this instance the necessary plant equipment represents only a small fraction of the expenditure required to place the product in the hands of the consumer. In earlier days of the industry an investment of $250 to $350 per customer was required, and now the cost is from $50 to $100, depending on the number and density of the customers being served. Thus, while plant equipment for recovering the butanes and propane may be installed at a cost of $100,000 to $300,000, several million dollars may have to be spent in obtaining an outlet for this production —for a capacity of one carload of propane per day at the plant will satisfy the requirements of about 35,000 domestic customers.

In so far as the domestic market is concerned, therefore, it is a business within itself and not merely an outlet for a product. And last year this "bottled gas" industry accounted for 87,530,000 gal. of the total sold, and during recent years has shown the largest percentage increase over former years of any of the various uses.

In summing up the situation as regards the marketing of propane as a domestic fuel, James W. Vaiden of Skelly Oil Co. in a paper presented before this year's meeting of the Natural Gasoline Association of America, pointed out that increased competition within the industry, as well as from other fuels, make lower profits and heavier investments a possibility in the future. This, he stated, is due mainly to the fact that such areas of this country as have not been extensively exploited for the marketing of propane as a domestic fuel, offer handicaps in the way of sparse population with attendant high cost of distribution or difficult competition with other fuels.

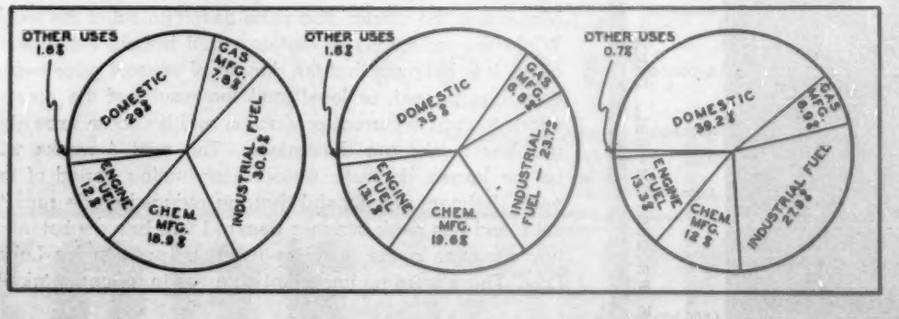
In spite of the ever-narrowing margin of profit extracted and the necessity for large capital expenditures, it is expected that increases in sales will add approximately 100,000 customers per year for the next several years, adding approximately 10,000,000 gal. to the propane consumption each year.

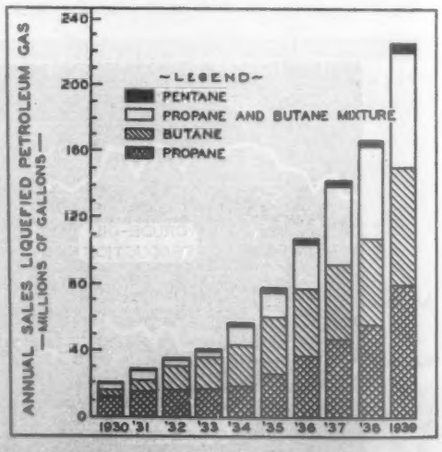
Butane as Domestic Fuel

Although propane, in raising in domestic use from 37,556,000 gal. in 1938 to 52,533,000 gal. in 1939, continues to far exceed butane's usage in that field, the latter and propane-butane mixtures continue to find favor as a domestic fuel. This is especially true on the Pacific Coast and in the South and Southwest where climatic conditions favor use of the lesser volatile fuel. In Texas alone it is estimated that about 1,000 new customers, and in Oklahoma about a third of this number are being added monthly at present, but many of these new installations of course are with propane. In 1939 marketed production of butane for domestic use was 17,881,000 gal. and propane-butane mixtures, 16,093,000 gal., as compared with 13,194,000 and 6,316,000 gal., respectively, in 1938.

In the distribution of these liquefied-gas fuels for domestic use, a significant development in 1939 was the large increase of tank-car bulk plants strategically located so as to reduce distribution costs and increase the quality of service to consumers. The unusually cold weather of last winter, which caused these fuels to be "rationed" to consumers and dealers in many areas, brought out the need for larger plants in some localities. Since then many companies have enlarged these bulk plants and are continuing to construct new

Below: Utilization of liquefied gas in 1937, 1938 and 1939, revealing that whereas these fuels have increased in domestic use their use in the chemical manufacturing industry has declined. Right: Chart showing annual production of liquefied gas since 1930





stations as their spheres of marketing enlarge.

Considerable improvement has been made in the design and choice of equipment for household installations using bottled gas during recent years. This factor no doubt had much to do with marketed sales of liquefied gas for domestic use increasing from 57,832,000 gal. in 1938 to 87,530,000 gal. in 1939. Installation costs have been reduced to an average of $9.75 from $36.50 in 1928, and thus new markets have been opened in the low income brackets.

In connection with the increased efficiency and economy of gas-burning appliances, the Bureau of Home Economics (U. S. Department of Agriculture) recently conducted a series of tests which showed that most economical results generally can be obtained by using equipment especially designed for liquefied gas. The efficiency of ranges using liquefied gas was found to be higher than that commonly used with manufactured or natural gas.

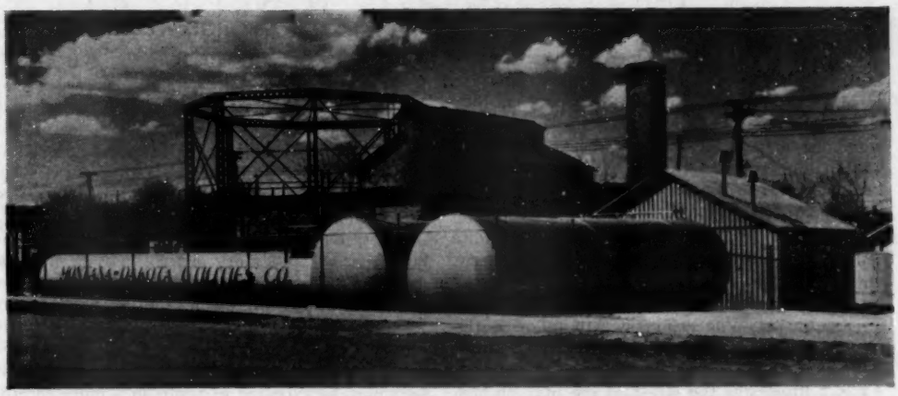
Another factor entering into increased usage of these fuels is the increased public acceptance resulting from a larger number of satisfied users, aggressive merchandising by a greater number of concerns engaged in the business and more widespread advertising through various mediums. In this regard the sales head of one large producing and marketing company stated that 9 out of 10 new prospects now contacted by sales representatives admit they have at least heard of liquefied gas as a fuel whereas just a few years ago only 1 out of 10 stated they knew of the fuel.

Central Distributing Plants

Gas companies which use liquefied gas for enriching manufactured gas or for direct distribution through their mains, increased their purchases by nearly 37 per cent in 1939 and due to installations made this year a nominal increase is expected for 1940. These recent installations were for augmenting or replacing declining natural-gas supplies in areas where the advantages of natural gas are understood and appreciated, and a few were for replacements in towns formerly supplied by manufactured gas.

At one Indiana city a butane-propane installation now provides not only protection during interruptions of natural-gas pipe-line service, but is also used to provide 100 per cent substitution for the gas during peak-load periods, thereby reducing the pipe-line transmission-demand charge. Use of central liquefied-gas plants for extending service into territories adjacent to gas systems, with the view of future extension of gas mains to towns in this territory, is likewise finding favor with utility companies.

Of the total marketed production in 1939, 6.9 per cent, 15,435,000 gal., were used by gas companies, comparing with 11,307,000 gal. in 1938. At the first of this year, the American Gas Association reports, liquefied petroleum gas was being delivered through mains to consumers in 178 communities in 30 states by 82 companies supplying 49,800 customers. Butane-air gas with heating values ranging from 520 to 1,000 B.t.u. per cu. ft. was supplied to 125 communities in 30 states by 72 companies. A mixture of undiluted butane and propane gas with a heating value of 2,800 to 3,000 B.t.u. per cu. ft. was supplied to 12 communities in California by 5 companies. In the remaining 41 communities, in Maryland, Minnesota, New Jersey, North Dakota, Virginia and Wisconsin, undiluted propane gas with a heating value of 2,550 B.t.u. was being supplied by six companies.



Use of butane and propane in central distribution systems continues steadily to increase. This view shows a liquefied petroleum gas plant supplying a small town in North Dakota

Industrial Fuels

Butane and propane sold to the industrial market, where these fuels are used for metallurgical heating and processing and for large volume air heating, made an outstanding gain of 59 per cent in 1939 after falling off in 1938. Propane sales accounted for 23,685,000 gal. and butane 36,388,000 gal. of the 62,340,000 gal. marketed for this use in 1939, as compared with 14,316,000 gal. of propane, 23,405,000 gal. of butane and a total of 39,299,000 gal. in 1938. A great many new users were added during 1939, and older users found increased application. As the automobile industry is by far the largest consumer in this group, much of the gain in sales in 1939 was no doubt due to improved conditions in that industry. Likewise, since sales of automobiles this year are running well ahead of a year ago, as well as improved conditions in other industries, it is probable that another large gain will be registered in 1940.

Consumption of liquefied gas by the chemical industry was the only usage to show a percentage decline, as well as an actual decline, in 1939. Last year 26,892,000 gal. of these products were consumed in that industry, whereas in the previous year 32,299,000 gal. were used. Percentage of the total marketed production moving into this usage likewise declined from 19.6 per cent in 1938 is 12.0 last year. Of the 1939 total, 23,957,000 gal. was a mixture of propane and butanes, and 2,644,000 gal. was pentane. The amount of pentane used in the chemical industry, however, represented almost two-thirds of its total production, in which there was a gain of 72 per cent over that of 1938.

Spread in the use of liquefied gas as a motor fuel, especially on the Pacific Coast, is evidenced by a 37 per cent increase in deliveries for this purpose in 1939. Its use as a motor fuel accounted for 13.3 of the total marketed production, this volume (29,792,000 gal.) being made up chiefly by 23,957,000 gal. of pentane-butane mixtures. Use of these products as fuel for internal-combustion engines on construction equipment, well drilling rigs, railroad locomotives and air-conditioning equipment is becoming an increasingly important outlet, so that this year's total marketed production will probably see an increase in this usage.

In California, where butane-propane mixtures are most widely used, it is estimated that about 15,000 engines in trucks, buses, tractors, drilling engines, etc., operate on these fuels, accounting for approximately 75 per cent of the state's liquefied-gas consumption. Furthermore, trucks are being converted to operate on butane-propane mixtures at the rate of almost 150 per month.

In many areas of Texas almost one-half of the drilling is being done with engines powered by liquefied gas. In Nebraska, Iowa and many other states where large construction projects of dams are under way these fuels are being used in a majority of instances. Likewise butane is being used as a railroad locomotive fuel and appears to be finding wider application.

Battery of tank-truck-delivery-type cylinders installed at a country club, four tanks being used to insure an adequate supply at all times

Interior view of an industrial plant where liquefied gas is used as fuel for furnaces, the one here being a small-parts hardening furnace

Mississippi Entering Settled Exploration Stage

By GEORGE WEBER

JACKSON, Miss.—As Mississippi approaches its first anniversary of commercial oil production a gradual but marked change is seen in the type of play in that state. During the past year hundreds of independent operators, major-oil-company land men and geologists, lease brokers, wildcatters, drilling contractors, and geophysical parties have migrated to the state.

Oil discovery at Tinsley signaled a leasing campaign which touched every county in the state and resulted in practically solid leasing in many. This play, incited by low prices, paved the way for a rapid and none-too-scientific assemblage of acreage blocks. Wildcatting swiftly followed the leasing boom, but, save for one additional strike at Pickens, new production was not found.

Fig. 1 illustrates the effect of the play on Mississippi drilling activity. From an average of seven to eight rigs in the state prior to August 1939, active operations rose to 15 by September 1 and thereafter increased to a maximum of 42 rigs as of April 1 of this year. The decline in drilling since then is mainly due to slackening in Tinsley where offset requirements are less pressing. That is also reflected in the drop in oil-well completions for June and July.

The low percentage of success in Mississippi exploration during the past several months must not be taken to indicate the state's true possibilities for oil production. With few exceptions, wildcats recently drilled and abandoned in the state are considered by geologists to have been poorly located and too shallow.

This repetition of past leasing and wildcatting booms, well known in the industry, is now entering a more settled and scientific stage. Active wildcatting has declined, but succeeding the many tests drilled on haphazard geological and geophysical information are several current wildcats whose locations were carefully selected on the basis of better subsurface and surface geology, checked by more thorough geophysical shooting.

Mississippi leasing has likewise declined, but has improved in selectivity. Most transfers consist of shares in drilling blocks, additions around well-regarded structures and selections following geophysical exploration. Geophysical prospecting is also slowing down, but it is likely that it will not decline much further within the next few months, for it is already evident that the preliminary, hurried shooting which followed the lease boom must in many areas be checked by more thorough work.

The trend of development from the fever of the boom period to a more orderly activity may be expected to result in a greater percentage of discovery in wildcatting during the last half of 1940. A large number of undrilled blocks and prospects remain, and the example of hasty reconnaissance and resulting failure in so many recent wildcat tests may be expected to result in a more careful drilling hereafter.

The Upper Cretaceous play, extending through central Mississippi, has revealed the fact that blanket sand bodies exist in the Selma chalk, Eutaw, and Tuscaloosa formations through a wide area. Few outstanding structures like Jackson or Tinsley have been found, but less pronounced structures revealed by geophysical shooting have been proved productive by the discovery at Pickens. Although several such prospects have been drilled, the wildcat failures are not considered as condemning the respective prospects, since many such tests were drilled without sufficient preparation.

Above: Many wells at Tinsley are going on the pump. With 24,000,000 bbl. of recoverable reserves already developed, the field will produce on artificial lift for many years

Left: Treating equipment and storage at the new Vicksburg refinery during construction. Products will be moved by rail, truck and river barge

Alabama

The wave of buying which swept Mississippi last fall and winter has now extended eastward. South and West Alabama now show the most active leasing in the Southeast. Large blocks are being leased by major oil companies, and geophysical options cover many hundreds of thousands of acres in the state. Terms under which much of the leasing is being made are unknown, and it may be expected that most leases are for long periods.

The play in Alabama, particularly along the southern tier of counties, where it is most active, may be considered as a cheap leasing campaign, with many buyers taking acreage for future protection, and others buying on the strength of an expected price increase attending subsequent drilling. At this stage the play shows indications of extending strongly into Florida and Georgia.

Alabama may be divided into two distinct provinces with respect to current interest. The Warrior or Northwest Alabama basin, which extends into northeastern Mississippi, has attracted interest for many months. An area with production possibilities in the Paleozoic formations, this basin has been actively leased since the Mississippi play began. Beds of Mississippian age, principally the Hartsell sand, contain asphalt at outcrops to the northeast, and their oil-productive possibilities are considered good down dip, provided structures or traps of sufficient size can be located.

Geophysical parties have been shooting the basin for several months and on the basis that prospecting has continued, assumption may be made that results have been satisfactory. One company is due to begin selecting acreage early this autumn, with drilling operations on the basis of one test per 10,000 acres chosen, scheduled to begin within 90 days of first selection. Additional tests and selections are due each succeeding 90 days until all acreage desired has been leased. This option, one of several such, covers over 100,000 acres. Three wildcats are now active in the basin, but more are expected in a short while.

Southern Alabama has been sparsely drilled, but gas shows have been encountered in upper formations throughout the section. Two deep tests are now shut down in that sector, both of which are to be deepened through the Selma chalk formation to 8,500 ft. More acreage is currently being leased in that southern tier of counties than in any other area in the Southeast. It is not probable, however, that immediate and widespread wildcatting, similar to that in Central Mississippi, will follow this leasing play.

First Refinery

An important development of the industry in Mississippi is the first refinery. A 4,000-bbl. topping plant has been completed by Edgar C. Johnston, of Longview, Tex. The plant, located on the

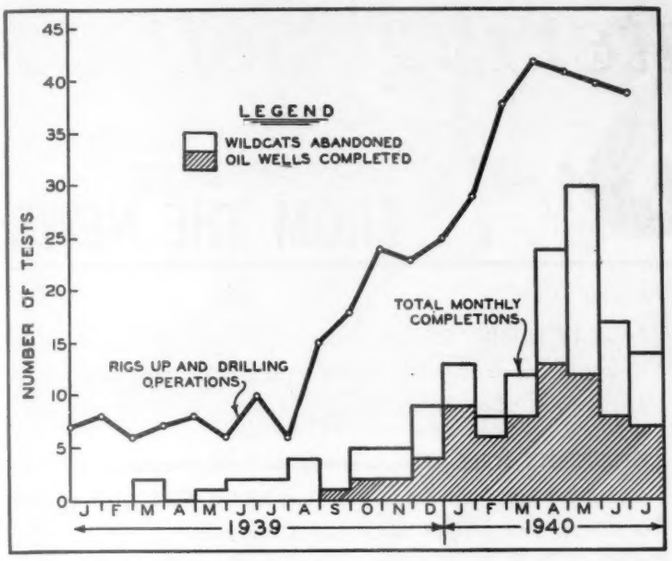

LEGEND
WILDCATS ABANDONED
OIL WELLS COMPLETED
NUMBER OF TESTS
TOTAL MONTHLY COMPLETIONS
RIGS UP AND DRILLING OPERATIONS
J F M A M J J A S O N D J F M A M J J
1939
1940

Fig. 1 — (Above) Chart showing Mississippi drilling activity during the past 19 months. The peak in activity was reached during March of this year

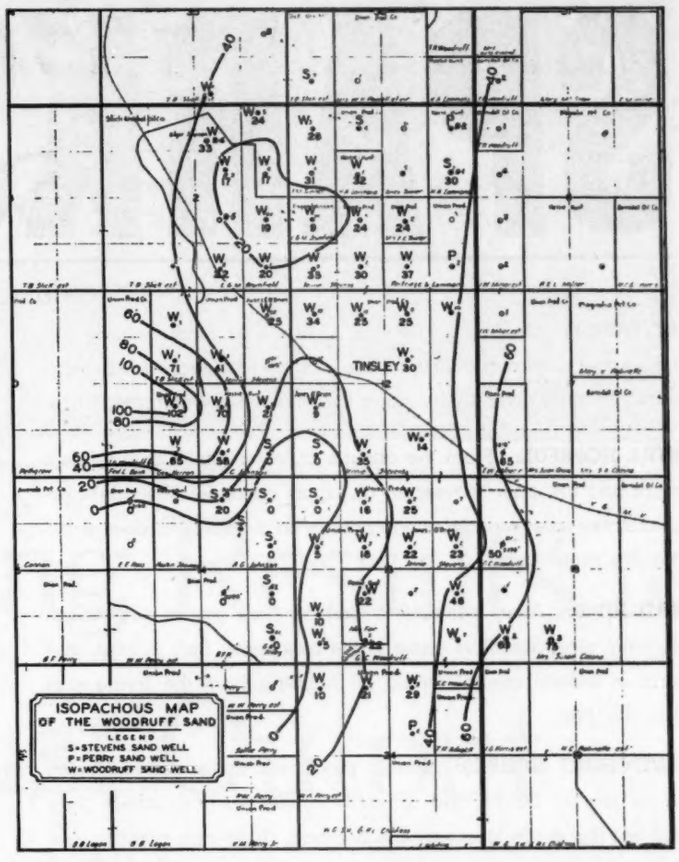


Fig. 2—(Right) Isopachous map of Tinsley field in Mississippi, showing thickness of Woodruff sand

Mississippi River at Vicksburg, is now completing test runs and is expected to be operating at full capacity shortly.

Tinsley crude will be moved to the plant by tank car. There low-end-point gasoline, high-gravity distillate and burning oils will be cut. Operators are also equipped to manufacture commercial naphthas although the plant is not yet on that schedule.

The disadvantages of relatively poor octane and small yield of low-end-point gasoline from Tinsley crude are offset by the geographical location of the plant with respect to markets. Products will be moved by rail, truck, and river barge to nearby consumption points which have contracted for the plant's entire output. The plant's location on the river, 120 miles from the nearest other refinery at El Dorado, provides preferential transportation rates not only to the immediate market but to the Chicago area, accessible by cheap river movement. The new refinery thus enjoys equal rates to the Group 3 market with inland Illinois refineries.

No state proration is in effect at Tinsley, but crude production has been limited to about 100 bbl. per well per day by purchasers in the field. The refinery will take crude from six E. C. Johnston wells currently producing in the field. In addition, it is expected that Johnston will purchase other crude in the field at the posted price of 80 cents per barrel.

Rumors of a pipe line from Tinsley to Vicksburg still persist. Original reports of such a project were followed by a reduction in the freight rate to 3½ cents per cwt. for crude from Tinsley to Baton Rouge. Present proven reserves in the field will justify such a line. An option on 64 acres fronting on the river south of the highway bridge was recently exercised by an agent for unknown interests. The site is to be used as an oil terminal and its distance from railroad facilities indicates that a pipe line is being planned.

In addition to the possibilities of a pipe-line outlet, Tinsley may gain new refinery outlets. Two Mid-Continent refiners have approached producers in the field with the intention of contracting for crude and erecting plants either in Yazoo City, Tinsley, or Vicksburg.

Tinsley Production

Aside from its distinction as Mississippi's first commercial oil field, Tinsley is gaining importance as a sizable crude reserve. Production is found at three levels, one of which shows considerable thickening at points on the pool's present edge. A reserve of 24,000,000 bbl. of recoverable crude is estimated on actual producing acreage at present, while conservative estimates of recovery including probable extensions will run as high as 30,000,000 bbl.

With a low reservoir pressure, production is semiflush. Daily potential production is estimated at 37,500 bbl., and current production averages about 8,000 bbl. daily. The field will in all probability go entirely to artificial lift early in its life, since many wells are already on the pump.

At this stage in its development, Tinsley shows good possibilities for extension. The principal pay is the Woodruff sand, occurring in the base of the Selma chalk formation. Fig. 2 is an isopach of that body. The large numerals at each well indicate the overall thickness of the Woodruff sand section. Effective producing sand is in most cases less than the entire section, since the sand is broken with nonproductive chalk lenses.

In the southwest sector of the field as now developed, the Woodruff sand is missing. From that area the sand thickens to the northwest, north and east, with pronounced tendency to the northwest and east. The possibility that the Woodruff may be productive south and west of the barren area is suspected but not yet proven by drilling.

A major fault extends through the field in a general northeast-southwest direction through Sections 2, 11, 12, 13, and 18. Woodruff sand production is defined on the east in Sections 7 and 18 by two failures which encountered thick sand below the salt-water level. Outpost tests to the southeast and northwest have limited production in those directions.

North of the major fault the sand shows varying thickness with no definite trend. The best undeveloped acreage in the field appears to lie

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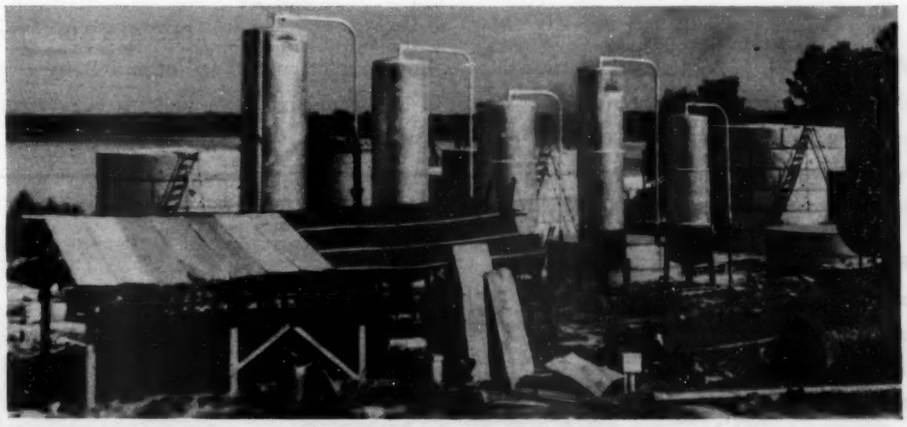

The E. C. Johnston refinery, Mississippi's first, is located on the Mississippi River at Vicksburg. It will charge 4,000 bbl. of Tinsley crude daily. Photographed while construction was under way

SPARKS . . . FROM THE NEWS

DIVERSITY: One refiner on the Gulf Coast manufactures 350 major and distinct products at one plant. Meat packers who won recognition for diversity by using the squeal have nothing on him.

STILL HOPEFUL: From the attitude of lower Gulf Coast refiners regarding the slow movement of export gasoline, one might expect to see sales managers equipped with mariners' glasses walking the shore line.

BAD JUMP: After listening to the pro and con at the Austin hearing, most operators came to the conclusion that, at best, any form of federal control would be jumping from the frying pan into the fire.

SWITCHING HORSES: Illinois producers have quit worrying about market outlets and are now concerned with where they will get the crude to satisfy the demand. They can point to several good prospects.

RIGHT STEP: The best news of the week was the decision of the Texas Railroad Commission to bring about further reductions in that state's production during August. Support from other states will result in much improved outlook by early fall.

ASPHALT ON TOP: Refiners of asphalt now like to point out that 65 per cent of the roof surface in the U. S. is covered by asphalt shingles. The figure is almost six times that of wood shingles.

BOOM ENDS: As Mississippi nears its first oil birthday, the boom speculative period is being supplanted with sound development.

OVER THE RIVER: Bryan County became Oklahoma's newest oil-producing area the past week when a well across the Washita River from the Cumberland pool in Marshall County found oil.

BACK IN THIRD: An additional decline of 10,000 bbl. daily in Illinois last week enabled Oklahoma to regain its position as the third largest oil-producing state.

PROSPERITY ITEM: The earnings of 16 representative oil companies the first 6 months of this year totaled $82,511,318, a gain of 125 per cent over the same period last year.

BREAK FOR LOW GRAVITIES: With the demand for all grades of fuel oil expanding rapidly some of the deeper, low-gravity pays of West Texas and other areas are increasing in attractiveness.

PATIENT IMPROVES: North Texas producers are breathing easier, feeling they have momentarily passed another crisis by transfusion from restoration of old prices by one buyer and entry of a long-absent purchaser.

MOVING IN: The big companies, slow to explore the Forest City basin, are beginning to recognize possibilities of the Nebraska sector by action, a second major operator having started drilling operations near Falls City.

DEFENSE AID: The Department of Justice has checked up to the National Defense Advisory Commission the matter of bringing antitrust suits against major units in the oil industry involving divorcement of pipe lines and marketing from the remainder of the industry. Many observers believe the suits will be postponed indefinitely.

HELPFUL: A major company's inquiry for 500 cars of gasoline promises to absorb a part of the excessive stocks in the inland refining district.

SOUND BASIS: In the sale of liquefied gases, emphasis has been placed on sound sales policies. An amazing growth has resulted.

CARVING ROAD UP MOUNTAIN SIDE . . .

For the transportation of drilling equipment to a lease near Grantsville, W. Va., a steep road was built up a mountain. Grading was done by a diesel tractor

H. F. Sinclair testifying before Texas Railroad Commission. Shown here are Col. Ernest O. Thompson, Lon Smith and Jerry Sadler, with Mr. Sinclair at extreme right

Texas Hearing Results in Lower August Output

By C. O. WILLSON

AUSTIN, Tex., Aug. 3. — Following a hearing which extended through Thursday and part of Friday, the Texas Railroad Commission today announced a proration schedule for August which provides for further reductions in the state's crude production. Two shutdown days—August 15 and 22—were added to the 7 shut-in days previously announced for the month. The addition of the 2 days will reduce the state's allowable approximately 75,000 bbl. daily, pointing to an average production for the month of 1,194,943 bbl. daily. This total is 131,457 bbl. daily under the Bureau of Mines' recommendation for Texas during August.

The decision today, following the announcement yesterday that a major buyer had rescinded its action of July 16 in reducing North Texas and Mexia crude-price schedules, climaxed an important 3-day period in Texas oil history during which the administration of the state's conservation acts by the Texas Railroad Commission was severely criticized. Before the hearing concluded a large majority of the producers in the state had rallied to the support of state control as opposed to any of the suggested federal-control proposals. While several operators had asked for increased allowables during August, there was no general criticism of the commission's decision to continue the curtailment of Texas production started in July, through August and later if necessary.

H. F. Sinclair, chairman of the board of directors of the Consolidated Oil Corp. and one of the industry's most colorful figures for the past 35 years, was the big news of the hearing from the time it opened Thursday morning until he suddenly announced to 200 applauding operators Friday morning that the Sinclair Prairie Oil Marketing Co., the Consolidated's crude-buying unit, had rescinded its crude-price reductions retroactive to July 16, the date they became effective.

The veteran head of one of the industry's largest operating units who insists that his company be considered "one of the small fellows" and an independent which is handicapped in its operations by "dominant marketing competitors" was the first witness. He was followed on the stand by his company's counsel, Patrick J. Hurley, former secretary of war.

Mr. Sinclair accepted an invitation to attend the hearing which was extended to him by Jerry Sadler, member of the Texas Railroad Commission, after his announcement of a 75-cent price for North Texas and Mexia crude oil had precipitated what appeared to be a serious market crisis involving future policies in regard to conservation and proration regulations.

Abstracts of the statements by Messrs. Sinclair and Hurley will be found elsewhere in this issue. Their presentation and the questioning from members of the commission and operators which followed took up most of the hearing Thursday.

Federal-Control Threat

The statements, in addition to giving the reasons for the recent price reductions, covered the causes of the troubles of the industry generally with suggested remedies. Their criticism of the acts of the Texas Railroad Commission and large operating organizations of the industry were caustic with the definite statement from both speakers that they would favor federal control of the industry's operations if conditions do not improve in the near future.

It was made clear by Sinclair that in rescinding the crude-price reductions he was not taking back any of the charges which he had made, explaining that the former crude schedules were restored "for good cause and for the moment, since we are willing to wait."

Sinclair-Hurley Position

The position of the Consolidated Oil Corp. as revealed by the Sinclair-Hurley statements and their answers to questions, can be summarized as follows:

The crude-price reductions were announced last month because refining organizations could no longer justify posted schedules on a basis of refinery revenues. The Sinclair company did not announce the lower prices until they had been made effective by others and until it had been offered large quantities of crude at other Texas points substantially under the posted market.

The company believes that on a basis of costs $1 per barrel is too low for crude at the wells.

The blame for low prices for refinery products was placed on the major marketing organizations "who determine the price for petroleum products and do not, for their own reasons, choose to sell their goods at fair prices."

Conservation and proration as it has been administered was attacked and declared to be unsound. Charges were made that in Texas price and not the prevention of waste had been the controlling factor in the administration of the state's conservation acts.

The recent action of the commission in reducing Walnut Bend allowable 1,600 bbl. daily, after the Sinclair company had lowered the North Texas posted crude schedules, was cited as an example with the statement that "reprisals conducted by the commission against the Sinclair company for having reduced the price to meet competition were not to remedy any wasteful practice but, as we see it, to compel restoration of the price."

One of the main reasons why state control, with the aid of the Interstate Oil Compact Commission, has not been successful is the lack of uniformity in regulations and the

H. F. Sinclair States Position As To Acts of Regulatory Commissions

SINCE a gentleman, who was then general counsel of one of the largest oil-producing units in the world, advocated before a meeting of the American Bar Association many years ago a system that has come to be known as proration, a great many things have happened in the oil industry—some good—some bad. Hardly anyone, I think, would contend, however, that when proration was adopted as a policy, we knew where we were going.

We can now look at our situation in the light of knowledge and experience rather than the expectations of more than 10 years ago.

Crude oil is valueless until it is turned into products that somebody can use. I have said it a hundred times and I will say it a hundred more times that for no considerable period of time can the branch of industry that manufactures products out of crude pay more for the crude than he gets for the products. One can be a good fellow for a while, but ultimately paying more for flour than a baker can get for bread is going to reduce the baker to bankruptcy. By the same token, paying more for crude than the refiner can get for his product is going to reduce him to bankruptcy.

Of course, everyone is in favor of conservation and prevention of waste. I am not talking about that. I am asking you to examine proration as it is administered, not as it was represented. Where has it led us? Where are we now?

We have proration in some states but we still have too much oil and virtually the lowest prices in history for oil products. We have immensely increased the cost and capital required to produce a barrel of oil. At the same time we have to all intents and purposes pegged the price of crude at around a dollar—a price that bears no proper relation to the increased costs.

It is a safe guess that it costs three or four times as much to produce a barrel of crude under proration than it cost 12 or 15 years ago. In this same period crude has dropped 50 per cent in price. Think that over.

If anyone has the idea that the increased capital required to produce oil is something that concerns only companies with great financial resources, let me give you an example that should bring this aspect of the situation home to the little fellow. He needs 2,000 bbl. a day. If he wanted to produce the oil himself it would cost him, say $120,000 to drill eight wells, producing at the rate of 250 bbl. each in Illinois to supply the 2,000 bbl. To get 2,000 bbl. under a 20-bbl. allowable in East Texas would mean an investment of $1,500,000.

This will give you an idea as to what we have done about increasing the cost of production, but we have not done anything about product prices and if we tried to do so all we would get would be an indictment. So here we are with a pegged price for crude and a price for products that does not enable us to recover the cost of the raw material.

Producer Must Assert Himself

The next step in any discussion of this kind is to have the producer state in no uncertain terms that he is not responsible for the fact that the refiner does not ask enough for his products; and why, the producer adds, should he suffer the results of bad business methods, wasteful marketing, and destructive competition practiced by the refiner-marketer. That's a tough question to answer. In the first place, I don't think the producer should suffer from such causes, but I also have a question for him: How can any refiner-marketer get more for his product than dominant marketing competitors are willing to take. It is significant that most of these dominant marketers are the same companies who are responsible for most of the imports of cheap oil and who enjoy the lion's share of unprorated production in this country.

One proposed cure for our ills is that refiners should make less gasoline, reduce stocks, thereby taking distress gasoline off the market, and presumably enable us to get more for the products than we are getting now. In my opinion this is just another one of those false pretenses by which we are surrounded and provides no path out of the wilderness.

The real reason why the industry is not making any money out of its domestic business, and why it cannot pay as much for crude as it is paying now is that those who determine the price for petroleum products do not, for their own reasons, choose to sell their goods at a fair price. I do not pretend to be in their confidence and certainly they do not tell me their secrets, so I can only draw inferences from their acts.

If this very brief summary of some of the outstanding facts of our situation is accurate, let us look at this situation in the light of these facts rather than fancies; in the light of realities rather than theories. If we have had enough experience under the regime that has been maintained for the last 10 years, let us question some of the things that have been done and are being done, and see if our joint wisdom and imagination is not equal to providing some better cure for our ills than a mere computation of how we can cut off a few thousand barrels here and there and comfort ourselves with the delusion that we have cured our trouble. If after 10 years of taking a certain medicine out of the same bottle we find that we have the same pain in the neck that we had when we started to take this remedy, it seems to me time to consult another doctor.

I know that our highest courts have upheld in some cases the acts of regulatory commissions. I still do not believe that a clear-cut case involving arbitrary and capricious shutdowns ordered "for the prevention of waste" but actually having no real relation to such a purpose will be upheld. If necessary, it is my intention to test this belief in the courts.

I share with most Texans their strong aversion to further extensions of government control, but I say to you in earnestness that we cannot exist under a system which is half free and half slave; or under a compact which holds certain states rigidly in check and permits other states to do as they please. If there is to be no uniformity with respect to regulation of production, the logic of the situation, whether we like it or not, will bring about federal control. This would be a bitter pill, but we may be forced to take it if the states and the industry do not soon prove that they can cure their own ills. So far as I am concerned, as between the present situtaion—under the dominance of those who now determine the prices at which products shall be sold—and governmental control, fairly and intelligently exercised, I am ready to advocate government control.

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fact that certain states produce their oil without proration restrictions. Illinois was pointed to as an area where oil was produced without conservation restrictions, at much lower costs than in the prorated states.

It was contended that the increased imports coming from unprorated areas in foreign countries and domestic production in states which do not have effective conservation statutes meant in effect that 60 per per cent prorated production in this country was forced to compete with 40 per cent unprorated output produced at lower costs.

Major companies—not specifically named—were held responsible for the 50 per cent increase in imports so far this year.

The company's recent sale of its expropriated Mexican properties to the Mexican Government and the purchase of 5,000,000 bbl. yearly of crude oil from the Mexican Government for a period of 4 years were explained. It was pointed out that the company's imports under this contract account for only 1 bbl. out of 22 imported into this country at this time.

If the states are unable to correct unsatisfactory conditions, there will be no choice for operators but some form of federal control. Hurley favors a plan in which the federal Government would serve as an umpire with control of operations continuing with the states.

Explains Imports

The other principal witness Thursday was Hines Baker, attorney and director of the Humble Oil & Refining Co., Houston. Mr. Baker, who is a familiar figure at the Texas hearings, explained in more detail the import situation which Mr. Hurley had discussed. He pointed out that most of the imports, including the large increases this year, consisted of heavy fuel oil and low-gravity crudes. He expressed the opinion that due to conditions prevailing in domestic markets these imports were helpful. He pointed out that there had been over the past year and is at this time, a shortage of heavy fuel oils and distillates in this country. One of the reasons why gasoline stocks are excessive, he said, was due to refiners running too much crude to their stills last fall and winter in order to supply the demand for these heavier oils. The imports of these oils have greatly increased due in part to the reduced duties made effective by the State Department under the trade agreement with Venezuela.

This development was explained further Friday morning when Hurley questioned Baker regarding the imports of the Standard Oil Co. of New Jersey, of which the Humble company is a subsidiary. Mr. Baker read part of a letter of W. S. Farish, president of the Standard of New Jersey, which was written to C. A. Lester, Texas independent operator, who had complained to the Standard's chief operating executive. The Farish letter explained that the Standard of New Jersey intended to bring in the following imports this year: Lagunillas, Venezuela, asphalt crude oil, not available in the United States, 15,500 bbl. daily; Colombian bottoms, 12,000 bbl. daily; refinery products, mostly fuel oil and 29,000 bbl. under bond. The latter products are reexported and do not compete in domestic markets.

J. A. Coulter, president of the Oil Workers International Union, said that proration in Texas had taken away markets for Texas crude, their former outlets going to other states. He pointed out that the shutdown days had meant losses in em-

ployment of significance to the entire state.

Questioning of the witnesses by operators brought forth varied views regarding conditions in the industry and possible remedies. Jack Blalock, Texas operator and long-time friend of Mr. Sinclair, made known his opposition to federal control and raised questions as to the constitutional right of the Government to regulate production within a state. Mr. Hurley expressed the opinion that on a basis of recent court decisions the federal Government could regulate production without an amendment to the Constitution.

M. G. Hansboro, Houston, with holdings in the Hastings field, was the only operator present who said he would favor lower prices for crude if they would serve to correct a situation in which allowables were being reduced to the point where many operators, he said, were being forced out of business.

Support for the commission's policy of reducing allowables to meet the present emergency came from Ed Landreth, Fort Worth, Winston Henry, Houston, and others.

At the hearing Friday morning, several operators asked for increased allowables to meet August demands. In most cases they will not be granted now or later in the month, according to statements by members of the commission who indicated that by September 1 they hoped to be able to establish a 90-day allowable for the state.

Justifying the commission's decision to hold back the state's production in line with the reduced demands brought about by loss of exports, Col. E. O. Thompson said: "Proration has been the dam that has held back the flood of oil that would have wrecked every producer in Texas. This dam must not be broken. To do so would be to betray all the operators who have placed their trust in the laws of Texas and in their faithful administration."

Jerry Sadler called upon Illinois operators to voluntarily reduce their output so that area would do its share in correcting present conditions. If they fail to do so he said he would favor increasing Texas production to compete with the Illinois output at lower price levels if necessary.

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Hurley Reviews Developments In Plea for Better Regulation

THE company that retains me may or may not agree to what I am about to say. Most of us remember one of the times when the oil industry was in the cyclone hole. At that time there was in effect a federal statute known as the National Industrial Recovery Act. The people in the oil industry were called upon under that act to formulate a petroleum code. In all probability there has never been a more clear-minded attempt to solve the problems of the oil industry than the operators themselves, with the assistance of the Government, made in the formation of that code. The code certainly provided for the regulation of the oil industry. The code could have become a system of self-government, self-policing of the industry, with the Government acting as a referee. The administration of some of the codes soon descended to a kind of petty despotism. This conduct under one of the codes resulted in the overthrow of the entire N.R.A. by the Supreme Court.

Those who formulated the code considered seriously and intelligently the question of fixing the prices of oil all the way from the producer to the consumer. Many different methods to accomplish this purpose were suggested. Finally one morning the director of the N.R.A. announced, without equivocation, that "price fixing in this code is out." The regulation of the industry under the petroleum code was not perfect, but it did restore a workable price under which the industry could live, it did reestablish confidence, and it did enable the industry to come out of the cyclone hole. The code was beneficial to the industry. At that time hardly anyone disputed the fact that the industry needed regulation. The only question was whether the regulation should be by the industry itself, by the federal Government, or by Interstate Oil Compact, implemented by uniform state laws.

In making its choice the oil industry was influenced by the proposition that liberty in the American system is safeguarded by decentralization of power. Consequently, at the Dallas meeting of the A.P.I. in 1934, a resolution was adopted endorsing the regulation of the oil industry by interstate compact with the cooperation of the federal Government under the commerce clause of the Constitution.

P. J. Hurley, counsel of the H. F. Sinclair interests, presented three prepared statements at the Texas Railroad Commission hearing held at Austin, Thursday and Friday. These statements are abstracted on these pages. One statement dealt with the reasons for the crude-price reductions which were rescinded before the hearing adjourned; a second statement discussed general conditions in the industry and the third statement, the developments leading up to the sale of the Sinclair expropriated properties in Mexico to the government and the purchase of crude in Mexico to be imported into this country.

Mr. Hurley, as an attorney and operator, has been connected with oil operations for many years. As secretary of war in the Hoover cabinet he was a member of the Federal Oil Conservation Board. Previously he practiced law and operated oil properties with headquarters in Tulsa. For a time he was receiver and later president of the Gilliland Oil Co.

From that moment until the present case, the commissions of the various states and the Interstate Oil Compact Commission have been using the power to conserve and to prevent waste as a weapon with which to conduct reprisals and to punish those who meet competition by reducing prices of crude oil. Generally speaking, the compact has been used to sustain oil prices. This is a fiction that cannot live in a free nation. It makes the administration of laws ridiculous. It bases governmental authority and action upon a false premise.

It has been clearly stated that the oil industry must entirely reverse its position, if it now asks for federal supervision of the oil industry, that federal supervision will centralize power. That is what all Americans desire to avoid. However, the form of federal supervision could be decentralized so that the industry could police itself on a self-governing basis, with the federal Government as referee.

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Sinclair Met Competition in Price Reductions, Hurley Avers

WE have been buying 200,000 bbl. of crude a month at Corpus Christi since the first of January at market price of $1.33 plus 15 cents for loading or a total of $1.48. Beginning as early as June 10, our company was offered La Rosa crude at $1.16 per barrel aboard ships at Corpus Christi, Tex. The transportation from the field to the port and the loading cost amounted to approximately 15 cents per barrel. The posted price is $1.33 per barrel. These offers represented a cut below the posted price for this crude or similar crude aboard the ship at Corpus Christi of 32 cents per barrel. The company has received since then quite a number of additional offers of this and similar crude, ranging from $1.16 to $1.25 aboard ship at Corpus Christi. These offers indicated that perhaps several million barrels of Texas oil was for sale at these cut prices in this one area.

With the full knowledge that a great amount of Texas crude was being sold below the posted price and that the posted price had been cut by competitors in North Texas, this company posted a reduction in North Texas in an endeavor to meet this competition.

The oil affected by the Sinclair reduction in North Texas amounts to approximately 25,000 bbl. a day.

The facts indicate quite clearly that when Sinclair reduced the price in North Texas to meet reduction already made by competitors, there was involved no question of waste. There is no law that gives the commission authority to fix prices. All the references to prevention of waste "and the necessity for taking bottom-hole-pressure survey" are in accordance with a formula used by the commission as a promise upon which to base its extralegal price-fixing policy. The reprisals conducted by the commission against the Sinclair company for having reduced the price to meet competition was not to remedy any wasteful practice but, as we see it, to compel restoration of the price. This is one way by which a government agency attempts to achieve by indirection that which the law of the nation forbids it to do directly.

Effect of Price Fixing

The Railroad Commission of Texas, the newspapers throughout the nation as well as in Texas and nearly everyone interested in the oil industry, evinced an interest in the 1,600-bbl. per day cutback at Walnut Bend, entirely out of proportion with the amount of oil involved. That inci-

(Continued on Page 99)

STATE CAPITALS...

KANSAS

THE KANSAS CORPORATION COMMISSION effective August 1 has ordered that its assessment of ½ mill on each 1,000 cu. ft. of natural gas produced be suspended until further order by the commission. The assessment (Rule 215 of the General Rules and Regulations relating to the conservation of crude oil and natural gas) was placed in effect on October 6, 1937, for the purpose of defraying administration expenses. As there are now sufficient monies available to the commission, by virtue of the assessment, to defray expenses over the immediate future, and in order that the assessment not become a revenue measure rather than a police regulation, the commission deemed it advisable to suspend the order.

MICHIGAN

OIL AND GAS lease rights on another 20,000 acres of state-owned lands were offered at auction in Lansing last Friday by the Michigan Department of Conservation Lands Division. All territory involved is unproven, but offered, the division said, on application of oil operators interested in its exploration. The tracts are located in Allegan, Clare, Gladwin, Isabella, Mason, Mecosta, Missaukee, Montmorency, Ogemaw, Roscommon and Wexford counties.

The Michigan Conservation Department was to be asked this week by the Oil and Gas Association of Michigan to reduce rentals on state-owned lands by 50 per cent to stimulate drilling activities. The association, declaring production of crude oil has declined sharply in recent months, asked that rentals be cut after the first year from $1 an acre a year to 50 cents; the fee now is 50 cents for the first year. Arguments advanced by the association were that the reduction would result in leasing of larger amounts of state land, boost gross revenues to the state from fees and royalties, might boost severance taxes by increasing production and would eliminate inequalities which now hamper the small, independent operators.

TEXAS

TWO ADDITIONAL SHUTDOWN DAYS for August were ordered by the Texas Railroad Commission last Saturday, to bring the month's total to nine, in order that Texas' daily production would be held substantially under the Bureau of Mines demand figure for that month. The order resulted in cutting about 85,000 bbl. from the daily allowable, or a reduction to 1,194,943 bbl. as compared with the bureau's figure of 1,326,400 bbl. The 2 added shutdown days were for August 15 and 22, other closing days already ordered being August 1, 4, 8, 11, 18, 25, and 30.

On Saturday the average allowable was estimated at 1,280,468 bbl. or 45,932 bbl. less than the bureau's estimate and, with reduction of underproduction at 3 per cent, it was 84,346 bbl. under the forecast. The division's recapitulation listed a basic allowable of 1,579,926 bbl. The cut lowered the Texas quota to approximately 10 per cent under the bureau's estimate, which the Independent Petroleum Association of America had suggested to all prorated states as a desirable level.

Whether the commission would make any field adjustments to be effective this month was regarded as uncertain. No decision had been reached on the suggestion of some operators that allowables in fields producing light crudes, for which the demand is less firm, be pinched back with increases granted for heavier crudes for which the demand was represented as firm.

Commissioners Thompson and Sadler, who signed the order, observed that new wells were building up allowable production to near the bureau's estimate of a demand for 1,326,400 bbl. daily of Texas crude during August, a decline of 13,000 bbl. from the July estimate. Mr. Thompson also appealed to those companies importing crude to reduce the volume being brought into the United States, for otherwise it would be "obviously unfair to those operators who are cutting their production to balance supply and demand." Mr. Sadler said he heartily endorsed the commission's action adding 2 more shutdown days, reducing Texas proportionately lower than any other state on the basis of the bureau's estimate and reserves.

Average daily allowables of the various districts as of August 3, with 7 shutdown days, and estimated basic allowables with 9 production holidays but exclusive of increases by shutdown exemptions follow:

District—	Av. allow. Aug. 3	Est. basic allowable
Southwest Texas	202,993	253,202
Gulf Coast	192,022	233,235
East Texas	406,080	522,712
East Central	75,301	83,349
West Central	46,685	53,113
West Texas	187,029	230,129
North Texas	103,410	119,495
Panhandle	66,948	84,691
Total	1,280,468	1,579,926

THE RAILROAD COMMISSION last week issued a number of orders increasing allowables, adopting or amending field rules and permitting injection of salt water into porous formations. Among those issued were: Amending of pipe-line regulations to eliminate undue hardships in fields over the state. Increasing the allowable production of the Nelson pool in Jack County from the current 75 to 98 bbl. per day. Exempting the Victoria field of Victoria County from the shutdown days, retroactive to June 1. Promulgating 20-acre spacing and providing wells should be drilled 933 ft. apart and no nearer than 466 ft. to a property line in the Southview field of Taylor County.

NEW TEXAS COMPACT REPRESENTATIVE

J. C. HUNTER, independent oil operator of Abilene, Tex., and president of the Mid-Continent Oil and Gas Association, last week was appointed by Gov. Lee O'Daniel as his representative on the Interstate Oil Compact Commission. He succeeds Railroad Commissioner E. O. Thompson, who had served on the compact since 1935 and was 4 years its chairman. Judge Hunter was born in Thurber, Erath County, Texas, attended high school in Miles, Tex., and after graduating from Howard Payne College at Brownwood he took work at the University of Texas. After holding positions as a teacher, banker and jurist he entered the oil industry in 1926 as vice president of Grisham-Hunter Corp., a position he stills holds. He is likewise an executive of several other oil companies. In 1937 and 1938 he served as president of the West Central Texas Oil and Gas Association, and is a director of the Independent Petroleum Association of America

OKLAHOMA

LOWERED POTENTIALS ON CLASS C WELLS became effective on August 1, W. J. Armstrong, chief conservation officer, has announced. Potentials for the Fitts group and zones will be reduced 2 per cent monthly for the next 6 months. A 3 per cent decline will be applied to the South Britton, Langston, and North Lucien fields. In each field operators may take an open-flow test to determine potentials if they choose.

A well-spacing of 40 acres was approved by the Corporation Commission for development of the Creek County gas field discovered by Walter Brauer et al several months ago. The order applies to Sections 30, 31, and W½ of 32-16n-7e, Sections 6 and 7-15n-7e, Sections 25 and 26-16n-6e, and Sections 12 and E½ of 11-15n-6e. Discovery well is located in SE SW 31-16n-7e, and was completed for 10,200,000 cu. ft. at a depth of 1,140 ft.

LOUISIANA

INCREASED OIL AND GAS TAXES became effective in Louisiana on August 1 as a result of laws passed by the recent regular session of the legislature. A statement by the Revenue Department estimated that new taxes placed in effect would yield about $3,000,000 annually. Other new taxes to go into effect this fall will bring in an additional $5,000,000. These levies will offset the repeal of the 1 per cent retail-sales tax and reductions in automobile and truck licenses.

Principal among the new taxes placed in effect were the increased severance tax, raising the rate on low-gravity oil from 4 to 6 cents a barrel and placing a new tax of 6 cents a cord on pulpwood, and the new gas-gathering tax of ⅛ cent per 1,000 cu. ft. on natural gas. The Revenue Department estimates that the new severance rates will yield approximately $1,500,000 additional funds and the gas-processing tax about $1,182,000. Gas recycled, lawfully burned in flares, used in drilling operations and used in carbon-black manufacturing is exempt from the gathering tax.

NEW MEXICO

NEW MEXICO'S allowable oil production for August has been set at 102,000 bbl. daily, 3.5 per cent under the Bureau of Mines estimate of market demand and 4 per cent under the July quota.

State Land Commissioner Frank Worden, speaking at Santa Fe, N. M., said the August allowable represented a compromise between the wishes of some producers who felt an ever lower figure was necessary in view of market conditions and those who wished little or no reduction.

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Price

Discussions at the Austin hearing and elsewhere have brought forth a variety of views as to responsibility for the industry's recent price trends.

Some insist that control rests with a half dozen major units. If their statements are to be taken seriously, they are confident that the executives of these companies could come down to their offices in the morning and in a few minutes, through instructions to their crude-buying and refinery-sales departments, settle all the marketing problems of the entire industry.

The fact that these companies cannot act collectively and that their combined operations represent a minor fraction of the industry's operations are completely discounted as is the competitive significance of thousands of small units, all bidding for the same markets.

Others apparently believe that it is the duty of the state conservation bodies to so control allowables that everyone is satisfied with the posted crude schedules and refiners are assured profitable prices for products.

The conservation departments repeatedly have made clear that their primary function is to prevent waste in the production of crude oil. In carrying out this delegated authority, they have the right to prorate equitably based on market demands.

In this connection there is a point that many have overlooked from the time that proration based on conservation practices became the controlling factor in all phases of the industry's operations. Proration has always been conducted with the view of supplying all market demands 100 per cent.

Many have assumed that if the time ever comes when all the oil states regulate production so that crude output just equals the demand everything will be satisfactory marketwise.

They fail to realize that a market fully supplied does not have the background for either advancing or firm prices. It does have a better position than markets burdened with excess output as has been the situation recently in the case of crude oil and gasoline. But a buyer who knows that he can always cover his requirements seeks lower prices and over a period of time he will be successful in his quest.

Crude-oil prices at the wells will go from $1 to $1.10 when there are a sufficient number of sellers who refuse to supply all the markets at the dollar price. They will decline from the dollar level if these same sellers always have adequate or excess supplies available at that posting.

By the same token, gasoline quotations at refineries move up from 5 to 5½ cents when the jobber cannot purchase all the motor fuel he wants at 5 cents. Gasoline prices have declined to unprofitable levels in recent weeks because, as prices dropped, sellers continued to supply all market needs from current production and inventories.

These are applications of market principles found in the elementary economics textbooks which endeavor to explain in the simplest possible terms, price reactions in relation to changes in supply and demand. There are buyers' markets and there are sellers' markets but the control in all cases rests with the sellers.

Changes in regulatory methods will not alter this condition. The duties of the conservation departments end when they have supplied the markets without waste. Federal control, with prices to consumers the political factor in the application of regulations, would complicate this situation, not simplify it.

Operators need to direct more of their venom at the sellers, not the customers, keeping in mind, of course, that in most cases they will be criticizing themselves.

License Control Board May Relax Definition

By HENRY D. RALPH

WASHINGTON, D. C., Aug. 5.—Approximately half of all gasoline produced in the United States and some crudes and fuel oils may be shut off from export movement outside the Western Hemisphere under President Roosevelt's embargo on the exportation of aviation gasoline.

While ostensibly the export-license-control act is applied only to aviation gasoline, the definition is so worded as to cover any material from which aviation gasoline may be produced by ordinary commercial processes. Petroleum technologists say that under present refining practices this covers a wide range of products, including possibly half of ordinary motor gasolines of relatively low-octane rating.

There is some possibility that the definition may be relaxed to cover only those products which may be used directly as aviation fuel or as blending agents to produce high-octane fuel. If the definition is not changed it is probable that refinery practice could be altered so that ordinary motor gasoline would not come within its language.

Technically there is no embargo but only a license control to make sure that materials essential for national defense are retained in this country. All shipments of aviation gasoline, aviation lubricating oil, and tetraethyl lead must be licensed before they can be exported, and the president has practically unlimited discretion in granting or refusing to grant licenses for individual shipments. Since it was stated publicly at the White House that aviation gasoline would not be exported to countries outside of the Western Hemisphere, the Division of Controls of the State Department will not issue licenses for other shipments, so the practical effect is an embargo on shipments to Europe and the Orient.

No explanation was given for this embargo, but it is commonly assumed that its purpose is to prevent essential war materials from reaching Japan and Germany. The Japanese ambassador here presented a note to the State Department Saturday presumably protesting against this action. The embargo would also seem to be a reversal of the administration's policy of giving all possible aid to England, since the British have been buying substantial quantities of high-octane gasoline in this country, but so far as is known the British embassy has not protested.

As defined in the regulation, aviation motor fuel includes: "high-octane gasolines, hydrocarbons, and hydrocarbon mixtures (including crude oils) boiling between 75° and 350° F. which with the addition of tetraethyl lead up to a total content of 3 cc. per gallon will exceed 87-octane number by the A.S.T.M. knock test method; or any material from which by commercial distillation there can be separated more than 3 per cent of such gasoline, hydrocarbon, or hydrocarbon mixture."

It is admitted that this is not the ordinary definition of aviation gasoline but that the intention was to cover all gasolines, alkylates, isooctanes, and other materials from which aviation gasoline could be obtained. The definition thus covers practically all clean gasolines of 70-octane or more, and some with an octane number as low as 60, as well as many crudes and refined products containing more than 3 per cent of the named products. By "commercial distillation" is meant ordinary refinery separation and not superfractionation. While the definition may be difficult to police officials declare that refinery technicians can readily determine whether or not their products come within it and can furnish affidavits to customs officers if exports are such that no license is required. In many cases it is probable that refinery methods can be revised to take out of gasoline the elements which now bring it within the definition so that the resulting product may be exported without a license.

Somewhat the same situation applies to aviation lubricating oil. The definition was written to cover many things which are not used for aviation lubrication but which conceivably could be made into airplane lubricants. As it now stands the definition covers practically all Pennsylvania Grade light stocks and most solvent-extracted oils of 85 v.i. It is still uncertain whether the embargo on shipments outside this hemisphere applies also to aviation lubricants.

While it would be difficult, if not impossible, to bring a court challenge of the president's embargo order, observers are of the opinion that the president stretched his authority to an extreme limit. The law under which he acted gives him authority to curtail exports of materials essential to defense but says nothing about discriminating among purchasers of whatever exports are permitted. It would also be possible to make out a case for the contention that there is no danger of a shortage of aviation gasoline or lubricants in this country. Exports say there is good reason for retaining in this country the scarce and expensive blending agents needed to bring gasoline up to 91 or 100 octane, and that by next summer or spring our fleets of military aircraft probably will be large enough to consume the greater part of our present aviation-gasoline producing facilities. At present, however, our production of high-octane fuel is much greater than the domestic demand. It is estimated that capacity of 100-octane gasoline is in the neighborhood of 40,000 bbl. per day, whereas current army and navy purchasing is at the rate of about 4,000 bbl. per day. The only other market is Pan American Airways, which uses about 500 bbl. per day. Other domestic commercial airlines and private planes do not use 100-octane fuel. Within a short time, possibly this week, the defense commission hopes to have completed its program of purchasing and storing high-octane gasoline, and when this program gets under way it will provide a considerable market for the 100-octane plants which will in part compensate for their loss of export markets. Producers of lower octane gasoline whose products are subject to the embargo because they contain essential ingredients of aviation gasoline will have no recourse except to make fuels for the domestic and Latin-American markets or to extract these ingredients for retention in this country, thus permitting the reworked fuel to go into the export market.

In view of the public interest in the licensing of petroleum exports, both the Bureau of Foreign and Domestic Commerce and the Bureau of Mines released current figures on shipments of aviation gasoline. It should be noted, however, that these statistics are not based on the definition of aviation gasoline used in the export license regulations but cover products which the producers and exporters themselves classified as aviation gasoline. The statements follow:

EXPORTS OF AVIATION GASOLINE BY COUNTRIES OF DESTINATION, FIRST 6 MONTHS, 1939-1940

(Thousands of barrels)

	1940	1939
France	514	423
Germany	...	24
Norway	7	11
Sweden	32	15
United Kingdom	504	467
Canada	23	15
Panama Canal Zone	31	16
Mexico	15	16
Cuba	15	7
Netherland West Indies	191	443
Brazil	27	1
Netherland Indies	...	113
Hong Kong	5	38
Japan	106	342
Kwantung	...	26
Philippine Islands	52	45
New Zealand	...	79
Union of South Africa	17	7
Finland	8	9
Italy	4	180
All other	89	217
Total	1,640	2,494

EXPORTS OF MOTOR GASOLINE BY COUNTRIES OF DESTINATION, FIRST 6 MONTHS, 1939-1940

(Thousands of barrels)

	1940	1939
Belgium	110	587
Denmark	...	260
France	1	1,084
Germany	...	320
Netherlands	327	795
Norway	91	60
Portugal	60	...
U.S.S.R. (Russia)	75	...
Spain	1,162	825
Sweden	324	1,021
Switzerland	...	544
United Kingdom	1,654	4,423
Canada	478	819
Panama Canal Zone	163	80
Mexico	254	113
Cuba	340	302
Netherland West Indies	274	1,201
Haiti	11	115
Brazil	333	596
Chile	34	191
China	233	64
French Indo-China	137	...
Japan	247	126
Kwantung	398	291
Philippine Islands	593	547
Australia	559	397
New Zealand	2	108
Union of South Africa	8	123
All other	797	1,186
Total	8,665	16,178

Fines Imposed on Four California Marketers

As was predicted last week, California marketers indicted for violation of the Sherman antitrust act will not go to trial in November if all follow the procedure set by Standard Oil Co., General Petroleum Corp., Shell Oil Co., Inc., and Union Oil Co. These four marketers, with the consent of federal Judge Paul McCormick and government counsel, withdrew their pleas of not guilty and entered pleas of nolo contendere late this week.

The plea is interpreted to mean that the companies have pleaded guilty as charged but deny any intention of willfully violating the antitrust act as charged. It is significant to note that this plea of nolo contendere as interpreted actually presents the exact condition. When purchases of surplus gasoline began no one believed this would later prove to be a violation of the Sherman antitrust act or any other regulatory statute. Government counsel strongly urged Judge McCormick to impose the maximum fine of $5,000 and called attention to the fact that the offenses as charged in the indictment began in 1936 and continued up until action was taken to secure the indictment. Judge McCormick commented that he was justified in imposing the same judgment as if the plea had been guilty but in view of the defendants' determination to obviate the necessity of a long costly trial he felt they were entitled to some consideration. He thereupon imposed a fine of $4,500 on each of the four defendants. In addition to the fine imposed Standard Oil Co. through counsel agreed to pay $499.31 costs of the case to date. It is believed quite probable that other defendants will follow this action in the near future and thus the case set for trial November 19 will not proceed to issue.

Michigan Reports Possibility of Second Oil Strike in Month

SAGINAW, Mich., Aug. 6.—What may be the second important oil strike within a month in northern Michigan was reported today from Hamilton Township, Clare County, where Sun Oil Co. is completing a wildcat, drilled by Union Drilling Co. on its J. F. McKenna lease in Section 15. Two thousand feet of oil were reported in the hole today. The well was shut down last night for company orders. It has not been cased.

Dundee was topped at 3,748 ft., where a show of gas and oil was encountered. Oil then rose rapidly after the hole was deepened 3 ft. The location is C S½ SW SE Section 15-19n-3w. Nearest production is at Gladwin, 10 miles west. Oil men today said the outlook is "distinctly encouraging for another field" similar to Clare's Temple district and it was reported formation was similar in character to that encountered in the Arenac County strike late in July.

Sun Oil has a monopoly of the acreage in the Hamilton Township area. Previously four dry-hole deep tests for oil and two for natural gas had been drilled in the township. Last February a small natural-gas well was completed in the area.

Antitrust Suit to Be Dropped, Is Consensus of Observers

By HENRY D. RALPH

WASHINGTON, D. C., Aug. 5.—Rumors that the impending antitrust suit against major oil companies has been postponed for considerations of national defense have been confirmed by official statements issued by Atty. Gen. Robert H. Jackson and the National Defense Advisory Commission.

Both statements assert that the case has not been dropped, implying that it may be filed in the near future if the N.D.A.C. does not find that it would definitely obstruct the defense program. The consensus in the capital is that the suit will never be filed, although Department of Justice officials assert they are getting the papers ready and that they believe they can convince the commission that the public interest will be served by a court effort to break up integrated oil companies. That political considerations are also a factor in the final decision is evident from the fact that opponents of the major companies are promising a congressional investigation and are dropping hints that the oil industry is demanding immunity from the antitrust laws as the price of cooperation in the national-defense program.

Attorney General's Statement

In view of this situation it is probable that a final decision and announcement will be made in the near future. Attorney General Jackson's statement follows:

"The Antitrust Division of the Department of Justice on Wednesday, July 24, 1940, recommended that I authorize the commencement of a comprehensive civil suit against 22 major oil companies and their subsidiaries and affiliated companies comprising a large part of the oil industry of the United States. This suit seeks to force these companies to divest themselves of certain types of properties, such as pipe lines and tankers and marketing facilities, and to disintegrate companies so as to separate transportation and marketing from the production of oil.

"It is obvious that the supply and transportation of oil now have relation to the national defense. Assistant Attorney General Arnold recommended that the matter of commencement of the action be taken up with the National Defense Advisory Commission to ascertain its opinion as to the effect on the national-defense program. I directed that this be done before determining whether to authorize the commencement of the action, and on Friday, July 26, 1940, the matter was presented to the commission.

"The action has been the result of a long history of litigation, the relief demanded is extensive, and the bill of complaint is lengthy. The commission has requested time to inform itself as to the effect of this action on the national-defense interest before furnishing the Department of Justice its views. This request of the commission for time to inform themselves before giving their approval to this action was obviously reasonable and has been granted. In addition to the complex nature of the action itself, I am informed that there are specific problems relating to pipe-line transportation, the manufacture of synthetic rubber and other matters in which the commission may find that defense requirements can be met only by the investment of additional sums in properties as to which this action seeks divestiture.

"The commission did not want to render a snap judgment, nor did I want a snap judgment from the commission. Specific problems may need additional information from this department as to the effects of this action and as to how the specific problems could be handled.

"I have conferred for an hour this morning with the members of the Defense Commission. I have received no other request from the commission than for adequate and reasonable time to give an intelligent answer to the questions this department has asked of it. It has not sought nor suggested the abandonment of the action in this or any other case. Its opinion has not been and would not be sought in any case that did not appear to affect national defense. No decision will be made as to whether this action will be authorized until the commission is in a position to report its effects on the national defense."

Statement of N.D.A.C.

The following is the statement of the National Defense Advisory Commission:

"The National Defense Advisory Commission on July 26 considered for the first time the proposed action by the Antitrust Division of the Department of Justice to dissolve the major oil companies of the United States.

"It was apparent, on its face, that this suit, if successful, would require substantial changes in the entire economic setup of an industry considered basic to the national defense. Such a proposal can be appraised intelligently only if subject to careful study in relation to defense requirements.

"The commission by unanimous agreement advised the attorney general that it will require time to explore defense needs in connection with the oil industry and the possible effect of the proposed action on such needs. The attorney general, in a conference today with the commission, stated that he desired a detailed opinion on this matter from the commission and that he would allow time necessary for its preparation.

"Neither the commission nor any individual member has expressed any opinion or made any request of the attorney general except for time necessary to consider the effect of the proposed action and, of course, no requests will be made until the detailed opinion is complete."

I.C.C. Refuses to Order Rate Increase on Petroleum

THE Interstate Commerce Commission last week declined to order motor carriers to raise their rates on petroleum and its products moving from California to Arizona points, after finding that motor trucks have much higher costs than railroads. The commission also decided not to force the railroads to increase their rates so that the motor carriers could earn a profit on petroleum shipments.

On the basis of an investigation of the costs of transportation by the two types of carriers, the commission found that not only are the costs of carrying petroleum much higher by motor truck than by rail, but that motor carriers are handling the oil traffic at rates below actual cost, while the railroads are earning a good profit at substantially the same rates.

The cost investigation, the first major study of its kind by the I.C.C., covered oil traffic from the Los Angeles and Bakersfield areas in California to Phoenix and other Arizona points. A typical example of the difference in comparative costs is shown by the rail oil rate from Los Angeles to Phoenix, a distance of 427 miles, with a rate of 33 cents per 100 pounds and a cost of 13.7 cents. The motor-carrier rate between these points was the same, but the cost was 38.4 cents.

Commissioner Charles D. Mahaffie criticized the failure of the commission to prescribe minimum motor rates based on costs. The commission held that it did not believe specific minimum charges should be prescribed solely on the basis of the cost study.

Commodities involved in the investigation included gasoline, distillate, naphtha, kerosene, and other refined oils, fuel oil, diesel oil, road oil, and others of the same type. Evidence at the hearing concerned refined oils chiefly.

Pleads Exemption for Gagers

DISTRICT gagers should be exempt from the Fair Labor Standards Act, Clarel B. Mapes, secretary of the Mid-Continent Oil and Gas Association, declared last week at the close of a series of hearings on possible redefinitions of the terms "executive, administrative, professional," and "outside salesman." The hearings were held before the Wage and Hour Division of the Department of Labor.

Supplementing his testimony of last June, in which he asked for the exemption of about 30 types of employes in the petroleum industry, Mr. Mapes confined his supplemental remarks to pipeline transportation. He declared that although most employes of interstate pipe lines are exempt from the Fair Labor Act because they are subject to the Interstate Commerce Act, there is a great deal of confusion as to their exact status. Mr. Mapes asked for the clarification of the situation by establishing more specific definitions for those excluded from the act, and by defining executive and administrative separately.

August 8 has been announced as the final date for filing briefs, after which the division will decide whether to issue redefinitions.

A tank farm for storage of intermediate oils and finished gasoline at Billingham, England

Restoration of French Economy Retarded by Oil Shortage

By J. P. O'DONNELL

NEW YORK, Aug. 6.—The possibility that France may lose her single proven domestic oil-producing area, the Pechelbronn field near Strasbourg in the province of Ras Rhin, was viewed as a strong possibility last week when it was learned that the Nazi conquerors are "Germanizing" that area with the probable purpose of making it a permanent part of the Reich. This view was taken after it had been reported that the Germans occupying that part of the country, the extreme northeastern corner of France which juts into the old Germany, were renaming streets and changing the spelling of city and town names to conform to their Germanic equivalents.

Pechelbronn, with a daily average production of approximately 900 bbl. per day, is France's lone proven oil-producing field, though a wildcat in the province of Herault, in extreme South Central France, was reported to have developed some production last year. The Pechelbronn field includes some 763 oil-producing wells which obtain their production from depths ranging from 820 to 3,050 ft. The oil is paraffinic and has a gravity of 29.5. It is probably the world's oldest producing field, having been discovered more than 200 years ago, and is unique in that it was the site of some of the earliest attempts at mining oil.

Just what Germany will demand of France in the way of reparations in the event the Nazis are victorious is uncertain, of course, but the fact that steps are being taken to Germanize the Strasbourg area is regarded as certain evidence that her demands will include cession of the province of Ras Rhin. This area has changed hands a number of times before in the history of conflict between Germany and France.

Accurate information on the extent of damage or destruction to foreign-owned oil property in France during the invasion is still lacking but it was reported on good authority last week that "two adjacent refineries along the Seine" had been damaged extensively, possibly to the extent of virtually total destruction. It was reportedly the intention of the retreating French merely to destroy storage facilities and their contents but the heat resulting from the burning of a vast amount of crude oil and refined products was reported to have wrought irreparable damage to the two plants.

Transportation Also Major Problem

Lack of petroleum products, principally gasoline, is said to be a major handicap to the restoration of the nation's economy. Transportation has become the major problem of the Vichy government due to the lack of gasoline for motor trucks and fuel oil for diesel engines, according to these reports, which point out that not only foodstuffs but numerous essentials are piling up in some sections and are entirely unavailable elsewhere. Repair or replacement of bridges destroyed to impede the advance of the invaders has been rendered almost impossible by the inability to transport cement. The national economy is further affected by the inability to transport to railroads which are operating produce that is only available some distance from them.

While the lack of motor fuel is being felt keenly by the French, the Nazi war machine, according to a statement made by Air Marshal Goering, gained vast supplies in its invasion of the Low Countries and France. Goering is quoted as saying, "It may astonish you that in Holland, Belgium and France we found twice the amount of gasoline and oil I have consumed in all air operations since May 10, so that not only did I not have to draw on my reserves but have actually added something to those reserves." This opinion was doubted by several authorities who are confident that lack of petroleum supplies is a major cause for the delay in the promised blitzkrieg on England. Their contention is that Germany's supplies had been depleted by operations on the Continent, that Germany is now dependent entirely on Rumania for all but synthetic fuel and that such supplies are handicapped by transportation difficulties that could not have been remedied so soon. Use of synthetic fuel for planes has seriously handicapped the efforts of the Reich air forces, these authorities contend.

Last week also witnessed the first air raids by R.A.F. forces on the land of their former ally when oil depots at Cherbourg, St. Nazaire and Nantes were attacked. At the same time, German forces were reported to have accomplished some damage in an attack on British supplies at Thames Haven.

The gasoline famine in France apparently was not much more severe than that in Spain. The latter promised to grow more acute as a result of the extension of the British blockade and the stoppage of all unnavicerted shipments to the Iberian peninsula. Immediately after the licensing system for American oil products was announced, Spain introduced rigid restrictions on gasoline use. The barring of gasoline sales to owners of pleasure boats and automobiles in excess of 25 hp., curtailment of sales to owners of less powerful cars and the replacement of buses

with electric service wherever possible is expected to reduce Spain's consumption 30 per cent but despite this reduction it is estimated that that country has not more than 30 days' supply available for essential services. Spain's internal transportation system has depended on trucking for 50 per cent of its service since the Civil War.

Rumania, striving with apparent ineffectiveness to placate territorial demands of neighboring nations and also gain the protection of Nazi Germany, extended its control over the domestic oil industry last week with virtual expropriation its ultimate goal. To previous orders governing the transfer of oil shares, requisitioning of tank cars and taking over the records of oil companies, the government last week provided for the requisitioning of materials by its own technicians. Control of the industry, to all intents and purposes, now is in the hands of the Ministry for National Economy.

Germany May Enter Objection

According to a wireless report to the New York Times, informed observers not only doubt the government's financial ability to expropriate foreign oil holdings but doubt that Germany will agree to such action. This doubt is based on the belief that Germany, if victorious in the war, will demand the stock of British, Dutch, French, and Belgian oil companies operating in Rumania as reparations. Thus the Germans would obtain control of the industry without paying for it.

Placation of territorial demands of Bulgaria and Hungary and maintenance of friendly relations with Germany were not the sole concern of Rumania since it has been reported that Russia is massing troops on the western borders of recently acquired Bessarabia. The corridor between Bessarabia and Transylvania, claimed by Hungary, includes the old Bacau oil fields and if the Russian plan of westward expansion is continued in this area these fields will be part of the territory. They are, however, only a minor part of the Rumanian oil industry with a production of less than 1,750 bbl. per day from some 265 wells.

The tempo of war activities in the Near East area was stepped up last week with Italian airmen claiming to have damaged or destroyed British oil-storage depots at Aden, at the southern entrance to the Red Sea, and at Haifa, Palestine. They also claimed to have damaged the Consolidated Refineries, Ltd., refinery at Haifa but it was reported here that this refinery, principal fueling point for Great Britain's Mediterranean fleet, was operating as of August 1. This would indicate that the damage was not too serious.

In retaliation for Italian air attacks, the British tightened their control of Mediterranean shipping. An attack on the Greek tanker, Hermoine, laden with a cargo of gasoline and lubricating oil destined for Italian forces in the Dodecanese Islands, resulted in its sinking. The attack on the tanker, under charter to Italy, was carried out by British warships and planes.

Increased Nazi "fifth column" activity was reported in the Middle East in the form of purported revolutionary activities in Afghanistan. While Afghanistan in itself is of no importance in the international oil picture this report coupled with rumors of unrest in Syria tended to increase fears for the future of near eastern oil properties of British and American interests. Iran, the Near East's principal oil-producing country, lies between Afghanistan on the east and Syria on the west. Kabul, site of the assassination of Mohammed Nadir Khan, then king, in 1933 and supposed headquarters of revolutionary activities at present, is not far west of Attock Oil Co., Ltd., refinery and minor producing area near Rawalpindi, India.

California Marketers Upset By Licensing Regulations

By L. P. STOCKMAN

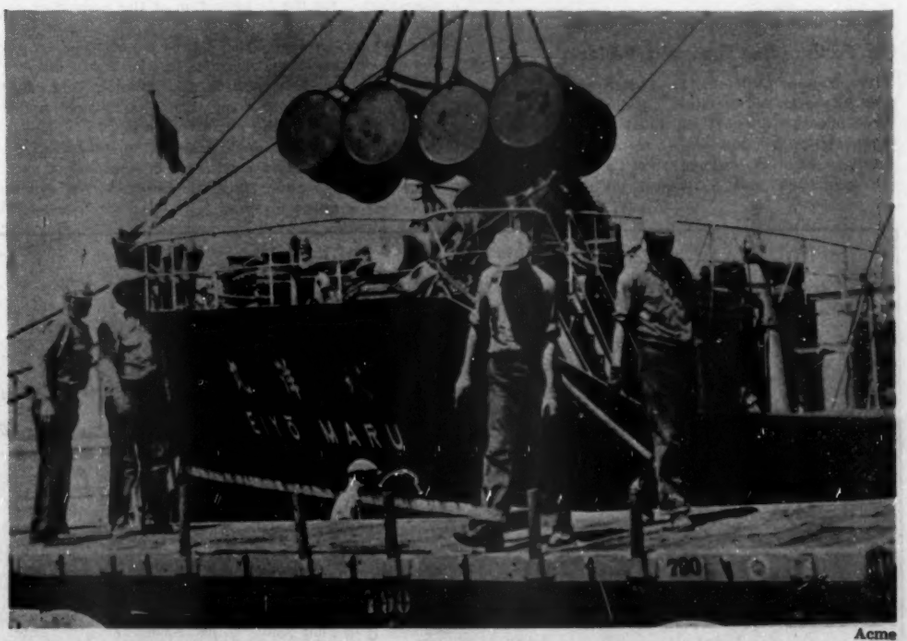
THE confusion arising over the embargo placed on aviation gasoline and the licensing of export shipments of crude oil and other refined products has put California marketers in a dither. The regulations issued appear to conflict and certainly do not state explicitly what is intended. There was never any question on the part of California marketers with respect to the embargo on aviation gasoline but the exact status of crude-oil shipments remains to be determined. The proclamation of July 26 specifies petroleum products as the term requiring license permits for export. On July 31 the embargo was placed on aviation gasoline. The regulations issued on July 26 define petroleum briefly as aviation gasoline, hydrocarbon and hydrocarbon mixtures including crude oil boiling between 75° and 350° or any material from which more than 3 per cent of such gasoline can be separated by commercial distillation. This provision definitely includes California crude oil of the refinable grades.

All California Oil Under Ban

It has been ascertained that practically all California crude oil will be subject to the licensing feature of the president's proclamation. The only California crude that will not be subject to the licensing feature will be heavy crude oil produced in the San Joaquin Valley fields as this heavy nonrefinable crude can not by commercial distillation be made to yield more than 3 per cent of 87-octane aviation gasoline. There was a last-minute rush this week at practically all California ports by tankers and cargo vessels to beat the deadline and by working until midnight July 31 all fixed cargoes were loaded in time. A considerable quantity of aviation gasoline in 50-gal. steel drums left before the embargo became effective. There was an apparent leak from Washington of the intention to place an embargo on aviation gasoline because within the past 2 weeks Japanese agents and buyers were scrambling for immediate delivery of aviation gasoline in as large quantities as available. These buyers stressed that delivery must be made immediately and not later than September 1 in Japan, indicating that an embargo was expected. This September 1 deadline indicates that Japanese buyers had expected to fill the order not later than August 15 in California and about August 10 in the Gulf Coast area. Prices were asked rather freely on 125,000 bbl. of California aviation gasoline within the past 2 weeks and 75,000 drums of aviation and commercial grades of gasoline were actually moved from California ports consigned to Japan ahead of the August 1 deadline.

Due to limited stocks of aviation gasoline on the Pacific Coast and the reluctance of some marketers to dispose of certain stocks in order to be able to bid on any government business, Japanese buyers were unable to secure as much stock as desired. In July, 57,000 10-gal. cases and 14,000 50-gal. steel drums of commercial and aviation gasoline left Los Angeles Harbor for the Far East. This is believed to have been destined for the Chinese Nationalist Government for delivery across Burma via the truck route to Yunnan Fu but since the British have temporarily closed the Burma route its final destination is conjectural. It may wind up at the British air base in southern Burma or may find its way to build up defense stocks at Thailand, Siam.

Additions to stocks of natural gasoline over the past few months were directly responsible for the reduction of quoted prices August 1 by Union Oil Co. of California ranging from ¾ to 1¼ cents per gallon but the action was believed hastened by the embargo.



Acme

Longshoremen work feverishly to load the tanker Eiyo Maru at Los Angeles with the last supply of American aviation gasoline before 10:30 p.m. on July 31, to beat the midnight deadline of President Roosevelt's embargo on the export of aviation fuel to Japan

Pipe-Line Activity

Cities Service Lays Line Near Kingman, Kans.

Cities Service Gas Co. is using the oxyacetylene method for laying 65 miles of 12-in. pipe between the Cunningham gas field and Wichita, Kans. The company's own organization is laying the line. Construction work is going on near Kingman, Kans., where approximately 8,000 ft. of pipe is being laid per day by stovepiping. The company is using five welders and one tacker.

Williams Bros. Have Three Gangs On Manufacturers Gas Line

Williams Brothers Corp. is handling construction work in western Pennsylvania with three gangs. The project consists of 160 miles of natural-gas line which is being laid for Manufacturers Heat & Light Co., Manufacturers Gas Co., and Pennsylvania Fuel Supply Co. Operations are directed from a construction office at Brookville, Pa.

Stanolind Awards Contract For Line to K.M.A.

Stanolind Pipe Line Co. has awarded a contract to O. C. Whitaker Co., Fort Worth, Tex., to build 8 miles of 6-in. pipe line from the site of a former station 5 miles southeast of Electra, Tex. The line will go south to the K.M.A. field, Wichita County, Texas. Work will get under way this week.

Awarding of contract followed an announcement by Stanolind Crude Oil Purchasing Co., purchasing subsidiary for the Standard Oil Co. of Indiana in the Mid-Continent area, that it would enter the K.M.A. field as a buyer.

Together with the announcement of the intended purchase of about 5,000 bbl. daily in the K.M.A. field was the statement that it would also enter the Rogers & Rogers field of Montague County as a buyer.

The company will build a 6-in. line from one of its Ranger-Healdton carriers to the Rogers & Rogers field. Purchases are expected to start in the fields within about 30 days.

Expect Construction to Start Soon On Panhandle's Looping Project

Construction of Panhandle Eastern Pipe Line Co.'s looping project on its trunk gas line from the Texas Panhandle to Illinois is scheduled to begin soon. Approximately 105 miles of 24, 22, and 20-in. pipe has been ordered from National Tube Co. and construction will be started upon its arrival, probably within the next 2 weeks. Completion date is set for October 15 of this year.

Locations of the proposed extensions to nine of the company's main-line loops and that of a new loop on the discharge side of the Tuscola station in Illinois are shown on the accompanying map. In Kansas and Missouri, 7.57 miles of 24-in. is to be added to the loop on the discharge side of the Liberal station; 8.06 miles of 24-in. at the Greensburg station; 8.25 miles of 24-in. at the Haven station; 8.29 miles of 24-in. above the Olpe station; 7.98 miles of 24-in. above the Louisburg station; 6.60 miles of 22-in. above the Houstonia station, and 6.13 miles of 22-in. above the Centralia station. In Illinois, 12.94 miles of 22-in. is to be added to the loop on the discharge side of the Pleasant Hill station; 16.40 miles of 22-in. above the Glenarm station and 23.79 miles of 20-in. at the Tuscola station.

Contract for the work in Kansas and Missouri construction has been let to Truman-Smith Construction Co. and that for the Illinois work to I. C. Little. The latter is now engaged in completing the construction of the Glenarm loop which was authorized last December.

In addition to this work an additional 1,300-hp. compressor unit will be installed at the Sneed station near Stinnett, Tex. Cooling-water facilities will be expanded at that station and construction of a diethylene-glycol dehydration plant is proposed. Also a new main-line compressor station is to be constructed near the Oklahoma-Texas line in Hansford County, Texas, approximately midway between the Sneed and Liberal stations. Compressor units of 650 hp. will be installed and 10 residences for station employes will be constructed at the station site.

Memphis Natural Expands Pipe-Line Facilities

Memphis Natural Gas Co. is spending more than $1,000,000 to enlarge its system. N. A. Saigh, San Antonio, Tex., is building four loops with a total mileage of 92 miles. At present he has construction headquarters at Greenville, Miss. Work is going forward for revamping all stations with special attention being given to the cooling systems since the company is considering adding a unit at each station next year. A 1,000-hp. compressor unit is being added to the station at Guthrie, La.

El Paso Natural Has Several Projects Under Way

EL PASO, Tex.—El Paso Natural Gas Co. is laying lines as follows: A 62-mile line will include facilities for serving Phelps-Dodge Refining Corp., Clifton, Ariz.; in the Jal, N. M., area 30 miles of 16-in. and 29 miles of 12¾-in. pipe will be laid in the vicinity of Deming, N. M.

Natural Gas News

Gas Companies Denied Review By Circuit Court at Denver

DENVER, Colo.—Rehearing was denied by the U. S. Circuit Court of Appeals to Colorado Interstate Gas Co., Canadian River Gas Co., and Colorado-Wyoming Gas Co. on their application for an order restraining the Federal Power Commission from proceeding with its investigation of the physical and financial organization of their properties which supply sections of Wyoming and Colorado with natural gas from Texas. The action was taken last week in Denver.

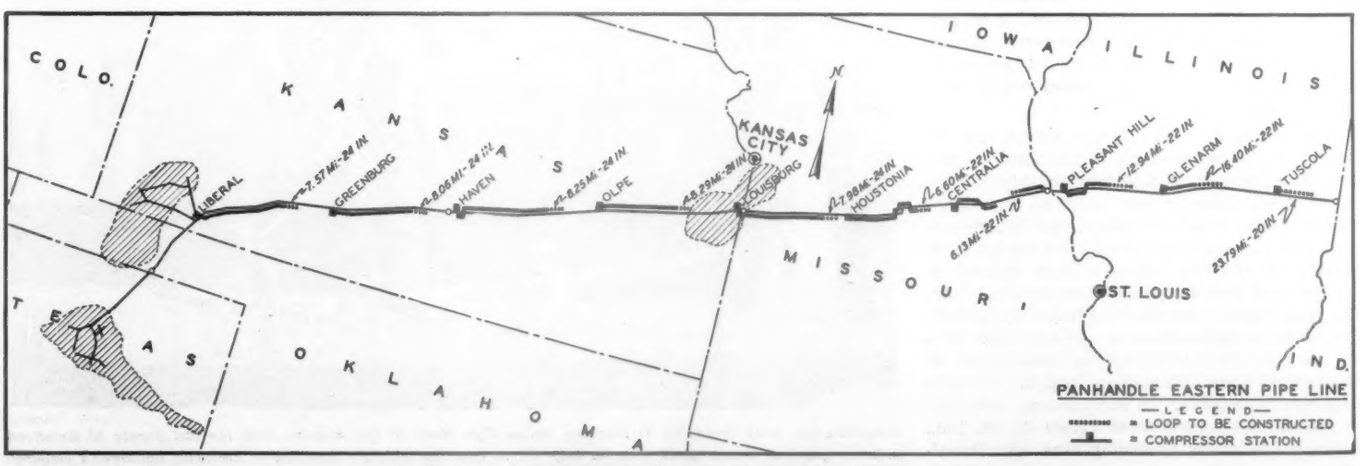
Order was issued March 14, 1939, by the Power Commission for the investigation of the properties under the text of the Natural Gas Act. The city of Denver had formerly appealed to the commission for relief under the consumer rates of the Public Service Co. of Colorado. The company said that the relief could not be afforded because of the rates charged under contract for gas at the city's entrance.

The matter was taken to court by the Colorado Interstate and affiliated companies on grounds of lack of jurisdiction by the Power Commission. The Circuit Court of Appeals ruled on March 5, 1940, that the case was not reviewable at that time since the order was one of investigation and did not require the three companies to do or to desist from doing any specified act. Investigation by the commissions has been in progress for more than a year.

New Gas-Purification Plants Announced

Unusual activity in the field of gas purification is evidenced by an announcement of the Girdler Corp. of Louisville, Ky., that 11 new Girbotol purification plants have recently been installed or are now under consideration. In West Virginia, plants for the removal of hydrogen sulfide from natural gas have recently been completed by both the United Carbon Co. and Godfrey L. Cabot, Inc., while the United Fuel Gas Co. has converted its dehydration plant at Clio to a combination dehydration-desulfurization unit. Another natural-gas purification plant is that of the Tri-Ess Corp. recently placed in operation in the Amargoza field in Texas.

For the purifying of feed stock at its new thermal



Panhandle Eastern's proposed extension loops at 10 points on Illinois gas line

polymerization plant at Wichita Falls, Tex., the Continental Oil Co. has installed a Girbotol plant and a similar installation is under way for the Lion Oil Co. of El Dorado, Ark. At Midland, Mich., a plant is under construction for the Dow Chemical Co. for the removal of H_2S from hydrocarbon gas.

The four other plants announced are for the removal or recovery of CO_2. Included are installations by the Proctor & Gamble Co., Merchants Carbonic Corp. at St. Louis, Mo., and a plant being built by the Lummus Co. for the Wabash Portland Cement Co. at Osborn, Ohio, for dry ice production. The Gas Machinery Co., Cleveland, Ohio, is building a plant for scrubbing CO_2 and water vapor from natural gas at the East Ohio Fuel Gas Co.'s new gas liquefaction plant at Cleveland.

Oklahoma Gas Sales Increased During May

Natural-gas sales for all purposes in Oklahoma showed an increase of 12.09 per cent for the month of May as compared with the corresponding month in 1939, the Oklahoma Natural Gas Co. has reported. This compares favorably with a national increase in natural-gas sales of 6.7 per cent for May over the same month of 1939. Natural-gas sales for domestic purpose over the nation during May showed an average increase of 10.8 per cent, according to the American Gas Association. The Oklahoma increase, as reported by the Oklahoma Natural, was 9.06 per cent for May over the corresponding month last year.

El Paso Natural Gas Sells First Mortgage Issue

NEW YORK, Aug. 5.—Last week El Paso Natural Gas Co. sold $2,500,000 first mortgage 3 per cent bonds in the following amounts: Equitable Assurance Society of the United States, $938,000; Massachusetts Mutual Life Insurance Co., $125,000; Metropolitan Life Insurance Co., $833,000; Sun Life Assurance Co. of Canada, $375,000; and Mutual Life Insurance Co. of New York, $229,000. These bonds were sold at 98½ and accrued interest due June 1, 1941. Of this bond issue $1,500,000 will be used for refinancing; $962,000 will be added to corporate funds. Plans call for the sale of additional bonds to the amount of $500,000; this makes a total of $3,000,000 for the bond program.

F. P. C. Will Hold Hearing On Tennessee Project

When a hearing opens September 4 before the Federal Power Commission on a proposal for a natural-gas line of Tennessee Gas & Transmission Co. from Louisiana to Tennessee, coal interests of that entire region, the railroads and miners groups will be on hand to present a united front against the project, it is stated.

Gas-Appliance Sales Gain During First 6 Months

NEW YORK. — Gas-appliance sales throughout the United States registered substantial increases during the first 6 months of this year as compared to sales figures for the same months in 1939, it has been reported by C. W. Berghorn, managing director of the Association of Gas Appliance and Equipment Manufacturers. A spectacular rise of 38.5 per cent in the sale of gas-fired furnaces (house-heating equipment) was recorded during the period from January through June of this year as compared to the same 1939 6-month period.

North Penn May Buy Crosby Gas Co.

HARRISBURG, Pa.—The Crosby Gas Co. of McKean County sought permission of the Public Utility Commission to sell its property and assets to the North Penn Gas Co., and abandon service. The purchase price was set at $72,000. The North Penn Gas Co., which distributes natural gas in Tioga, Potter and McKean County, would take over service of the Crosby company customers.

Refinery Expansion

Shell Awards Contract for Toluene Plant in Houston

Contract for construction of a plant to recover toluene, basic ingredient of TNT, from refinery gases has been awarded to C. F. Braun & Co. of Alhambra, Calif., by Shell Oil Co., Inc., which announced in San Francisco that the installation will be made at Houston, Tex.

This special plant, the announcement said, will produce more than 2,000,000 gal. of TNT grade toluene annually and will serve a key function in the direction of adequate production of the explosive for national-defense purposes.

Petroleum gases have been recognized by scientists in the oil industry as probably the most abundant source of toluene but previous limitations of demand restricted the production to the older process of separation from coal tar.

Shell Development Co., of Emeryville, Calif., research branch of the group, has developed to commercial standards the toluene process to be employed at Houston.

In addition, the announcement said, the research organization has perfected a second process, complementary to that to be used at Houston, and it is understood that by adding this second procedure, Shell could produce fore than 7,000,000 gal. of toluene annually at the Houston refinery. The company announced it was deferring construction of facilities for the more recently developed supplementary process at Houston, as well as toluene-recovery plants at its other refineries, pending congressional action on the national-defense amortization bill.

The new plant addition at Houston will cost approximately $500,000.

Texas Co. Nearing Completion Of Casper Poly Plant

CASPER, Wyo.—Construction of a new catalytic polymerization unit at Texas Co.'s refinery here is nearing completion and the plant is expected to start test runs about August 15. The Casper plant has a cracking capacity of 7,200 bbl. daily and a skimming capacity of 7,000 bbl. The poly unit, costing about $100,000, will take light ends from these units and process them into high-octane blending stocks.

Quaker State's Farmer's Valley Refinery To Resume Operations

Repairs to the Quaker State Oil Refining Corp.'s plant at Farmer's Valley, Pa., damaged to the extent of $30,000 recently by fire, have been practically completed and operation will be resumed in a few days.

Crude deliveries to the plant have continued without interruption. Storage space was available for regular crude deliveries while the plant was shut down.

Asphalt Demand Shows Gain Of 8 Per cent in 1939

Asphalt demand, domestic and foreign, was 8 per cent larger in 1939 than in 1938. To meet an increase of 364,100 short tons in domestic demand (offset to a slight extent by a decline of 2,800 tons in export demand) petroleum refineries in the United States enlarged their output of asphalt 447,500 tons, from 4,506,900 tons in 1938 to 4,954,400 tons in 1939, according to reports submitted to Secretary of the Interior Harold L. Ickes by the Bureau of Mines. At the same time, imports of lake asphalt, grahamite, and petroleum asphalt increased 40,400 tons in 1939 over 1938. In consequence, stocks of asphalt at refineries were 59,600 tons higher on December 31, 1939, than on December 31, 1938, in contrast with a decrease of 67,000 tons in asphalt inventories during 1938.

The indicated domestic demand for petroleum asphalt (including small quantities of Trinidad lake asphalt and Cuban grahamite) increased 8 per cent, from 4,404,846 short tons in 1938 to 4,768,960 tons in 1939. In terms of the long-time trend from 1908 to 1936 the demand increased from 23 per cent above trend in 1938 to 30 per cent above trend in 1939.

Grease Institute Adopts Lubricant Classification

The National Lubricating Grease Institute at its annual convention in Chicago in 1939 adopted a classification for lubricating greases which it has copyrighted. This classification gives the grade numbers and the A.S.T.M. worked penetration for each grade. While this classification is in no way a standard or specification of quality, it establishes the body or consistency of the grease and assures the manufacturers and consumers of lubricating greases of securing uniform bodies or consistencies while using this classification.

Natural Gasoline

California Production Shows Little Change in June

California natural-gasoline plants produced approximately 48,000,000 gal. during June, according to the Pacific offices of the Bureau of Mines. The Kettleman Hills area continues to be the largest single producer, the production here accounting for more than 20 per cent of the total. The statistics issued for June by the bureau follow:

PLANT OPERATIONS

	Gas treated (thou. cu. ft.)	Natural gasoline produced (gal.)
San Joaquin Valley—		
Belridge	3,117,315	1,777,093
Elk Hills	65,256	128,026
Kettleman Hills	7,032,383	10,488,910
Midway-Sunset	923,802	1,916,779
Mountain View	284,615	364,481
Miscellaneous	1,401,657	828,337
Coastal district—		
Elwood	300,359	416,236
Rincon	159,589	213,377
Santa Maria	155,998	480,260
Ventura Avenue	3,052,642	4,737,770
Miscellaneous	475,211	456,873
Los Angeles Basin—		
Brea-Olinda-Coyote	428,651	1,386,361
Dominguez	1,418,097	2,115,456
El Segundo	29,717	85,005
Huntington Beach	724,376	2,554,247
Inglewood	235,415	334,820
Long Beach	2,381,900	7,511,398
Montebello	2,005,260	1,875,556
Richfield	275,333	649,783
Rosecrans	1,102,930	1,316,932
Santa Fe Springs	1,316,513	4,808,676
Seal Beach	351,031	601,924
Torrance	261,146	763,284
Miscellaneous	1,097,907	2,167,804
Total (all fields)	29,196,803	47,979,388

DISTRIBUTION

	Gal.	Gal.
Stocks beginning of month	2,828,380	
Production during month	47,979,388	
Delivered to refineries		46,375,544
Delivered to jobbers, brokers, or blenders		788,191
Blended at plants for production of motor fuel		3,508
Losses		97,804
Stocks end of month		3,542,721
Total	50,807,768	50,807,768

Liquefied petroleum gas production	3,755,177 gal. =	89,409 bbl.
Motor fuel production	4,397 gal. =	105 bbl.

Number of producing companies		16
Stocks beginning of month		2,165
Production during month:		
At natural-gas plants	3,755	
At refineries from natural gas	1,501	
At refineries from cracked gas	1,974	
Total production		7,230
Total		9,395
Total demand		7,169
Losses		148
Stocks end of month		2,078
Total		9,395

F.P.C. Orders Company To Reduce Gas Rates

WASHINGTON, D. C.—Granting the joint motion of the Illinois Commerce Commission and its own counsel for an immediate interim order in the general rate investigation of the Natural Gas Pipe Line Co. of America and the Texoma Natural Gas Co. now in progress, the Federal Power Commission has ordered that the rates and charges for the transportation and sale of natural gas in interstate commerce by the Natural Gas Pipe Line Co. shall be reduced not less than $3,750,000 per annum, it was announced last week. This is the most important rate case yet considered under the Natural Gas Act and the largest reduction in rates ever ordered by the commission.

The reduction will benefit principally consumers of natural gas in Chicago and vicinity. More than 92 per cent of the gas sold by the Natural Gas Pipe Line Co. is sold in Illinois and approximately 90 per cent is sold to the Chicago District Pipeline Co. which in turn sells to the Peoples Gas Light & Coke Co., the Public Service Co. of Northern Illinois and the Western United Gas & Electric Co. The Illinois commission stated in its petition that the Peoples Gas Light & Coke Co. alone renders gas service to more than 800,000 domestic and other users of gas in Chicago.

Entire Record Considered

In arriving at its decision, the commission considered the entire record before it in connection with the Natural Gas Pipe Line Co. and the Texoma Natural Gas Co., which companies are substantially under joint ownership and operation, the latter selling approximately 90 per cent of the gas which it produces and gathers to the former.

In its Opinion 49, on which this order is based, the commission answers in detail and rejects the companies' contentions that they are private in character, not subject to regulation by this commission; that the Natural Gas Act, in so far as it attempts to give the commission power to regulate the companies, is unconstitutional; that the commission has no authority to enter the interim order sought until all witnesses have been examined and crossexamined and the companies have offered rebuttal testimony; that the commission is without authority to entertain the motion for an interim order since the Illinois Commission has no power to appear before this commission; and that the commission's own counsel have no power to make the motion as such action would place the commission in the position of litigant before itself sitting in its quasi-judicial and quasilegislative capacity.

Declaring that the companies have had a full and fair hearing and that the constitutional requirements of due process have been met, the commission says:

"On reviewing the entire proceedings before us, it is obvious that defendants-respondents have had a full and fair hearing. The record discloses the companies have been accorded and have properly taken advantage of every opportunity to present all reasonably essential evidence that they desired with respect to every factor bearing on both the jurisdictional and substantive aspects of the problem before us. Moreover, they have had full opportunity to present oral argument and file briefs.

"It is quite apparent that the defendant-respondent companies have presented all evidence that they deemed pertinent upon the question of fairness and reasonableness of their rates. The record discloses that throughout the hearings the trial examiner was extremely liberal in permitting the introduction of evidence by the companies. Moreover, the companies have had a full opportunity, which they have exercised, to crossexamine all witnesses offered so far by counsel to either commission and to offer all rebuttal testimony in explanation and clarification which they desired with respect to the testimony of such witnesses. They have had full opportunity, which they have exercised, to develop whatever facts they chose on redirect examination of such of their witnesses as have been crossexamined. . . . "

The commission emphasizes the fact that, for the purpose of the motion, the Illinois Commerce Commission and the Federal Power Commission attorneys accepted " 'the highest present rate-base figure for the companies' actual properties testified to by the companies' witnesses,' together with the companies' estimates of revenue and operating expenses, the life of their source of supply of natural gas, book figures for capital expenditures to date, the total gross capital expenditures over the period of 1932 to 1954, inclusive, and other factors essential in presently determining the problem before us."

The commission continues:

"For the purpose only of disposing of the problem presented by the motion before us, we reluctantly accept the companies' estimate of reproduction cost, their claimed present value of gas reserves, and also their claim for working capital. We cannot, however, even for the purpose of an interim order, accept the full claim for future capital expenditures or the amount sought for going value. . . . "

"In disposing of the motion for interim order, we are accepting at this time the companies' estimates of:

Reproduction cost new of physical properties (exclusive of gas reserves)	$56,302,250
Value of gas reserves	13,334,775
Capital additions for the period June 1, 1939, to December 31, 1942	3,808,399
Working capital	975,000
Total rate base	$74,420,424

"The foregoing amount allowed as a rate base may be compared with book cost of properties, plus working capital of $975,000, as of December 31, 1939, totaling $60,952,279, and therefrom it is clearly disclosed that the rate base presently allowed herein is liberal.

After determining the allowance for amortization, based on the companies' estimates of total capital expenditures throughout the companies' own estimate of 23 years as the entire life of the properties, the commission continues:

"We also accept, for the purpose of disposing of the motion before us, the companies' statement of income available for amortization and return for the years 1939 to 1942, inclusive. This means, of course, that we accept the companies' estimates of revenues and expenses, except amortization expense discussed above. The average of such income for these years, according to the estimates, amounts to $9,511,454. The commission, however, takes note of the increase in federal income taxes provided by the Revenue Act of 1940. Due to the increase in such taxes, it is estimated that the above net revenue available for amortization and return will be decreased to $9,362,032."

Based on careful consideration of the contentions of all parties, the commission determines "that 6½ per cent is a fair annual rate of return upon the rate base allowed" and reaches the following conclusion:

"The following table shows the results of our conclusions stated above:

Income available for amortization and return		$9,362,032
Less amortization		1,557,852
Income available for return		$7,804,180
Rate base	$74,420,424	
Rate of return	6.5%	
	$4,837,328	$4,837,328
Available for reduction in net revenues		$2,966,852
Consequent reduction in federal income taxes		783,909
Total available for rate reduction		$3,750,761

F. P. C. Authority Questioned By Milwaukee Gas Situation

WASHINGTON, D. C.—The decision of the Natural Gas Pipe Line Co. of America to extend its system into Illinois and Wisconsin, besides raising to four the number of companies that have announced intentions of building pipe lines to that area, brings up the question of delimiting the jurisdiction of the Federal Power Commission.

The Natural Gas Pipe Line Co. has not filed an application with the F.P.C. on the grounds that it is not required to do so because no other natural-gas company is serving the Wisconsin market. It bases its stand on the action of the commission on June 14, 1940, in the matter of the Montana-Dakota Utilities Co. in which the F.P.C. issued an order dismissing an application for the building of a pipe line from Fort Peck to Glendive, Mont. The commission declared it lacked jurisdiction because the market was one in which natural gas was not being distributed by another gas company, and stated a certificate of public convenience and necessity was not required under Section 7(c) of the Natural Gas Act. The section reads:

"No natural-gas company shall undertake the construction or extension of any facilities for the transportation of natural gas to a market in which natural gas is already being served by another natural-gas company, or acquire or operate any such facilities or extensions thereof, or engage in transportation by means of any new or additional facilities, or sell natural gas in any such market, unless and until there shall first have been obtained from the commission a certificate that the present or future public convenience and necessity require or will require such new construction or operation of any such facilities or extensions thereof: provided however, that a natural-gas company already serving a market may enlarge or extend its facilities for the purpose of supplying increased demands in the territory in which it operates."

The commission has not yet taken any action towards the Natural Gas Pipe Line Co., and has not indicated what its policy will be. The Montana-Dakota order may be considered a precedent, since both companies proposed to build pipe lines to areas not served by other companies. But there is an essential difference between the two cases. Three companies have previously filed applications to build lines to the same area as the Natural Gas Pipe Line Co. Western Natural Gas Co. proposes to construct a line from the Hugoton field in Kansas and Oklahoma direct to Milwaukee, Wis. Independent Natural Gas Co., wholly-owned subsidiary of Phillips Petroleum Co., plans to build a line from the Texas Panhandle to Milwaukee. A somewhat different location is contemplated by the Kansas Pipe Line & Gas Co., which has announced intentions to lay a line from the Hugoton field to South Dakota and Minnesota (The Oil and Gas Journal, July 4, 1940). The Montana-Dakota company was the sole applicant in its case. The commission may take the question of additional applications and priority of applications into consideration when it decides to whom to grant permission to construct the Wisconsin lines.

In addition, Montana-Dakota's line will be built entirely within the State of Montana. Although the commission mentioned nothing about the intrastate character of the pipe line in its order, that factor may enter into the situation.

The F.P.C. has not yet set any dates for hearings on the applications of the Western, Independent, and Kansas companies. The commission may be forced to take some action in the matter soon, because the Natural Gas Pipe Line Co. has announced it will begin to let contracts after receiving bids on August 12. A clarification of its attitude seems to be necessary before the way is cleared for the construction of pipe lines to the rich markets of the Great Lakes area.

International

Mexico . .

Crude Production Off; Reorganization Started

CRUDE-OIL production in Mexico fell to a daily average of 101,120 bbl. in May in contrast to 110,884 bbl. in April. May production of 3,134,728 bbl. increased output of Mexico for 5 months to 16,538,714 bbl., a daily average for the period of 108,993 bbl.

The Poza Rica field accounts for approximately 61 per cent of Mexico's crude-oil production. During May Poza Rica produced 1,926,268 bbl. of the total, a decline of 8 per cent from the May output. Petroleos Mexicanos produced approximately 82 per cent of the nation's crude in May. The Administracion General del Petroleo Nacional produced 13 per cent and the remaining 5 per cent came from properties still in the hands of independent concerns.

Mexican production by districts for April and May with the accumulative total for 5 months follows:

(Figures in barrels)

District—	May	April	5 Months
North Tampico	536,084	585,008	2,643,625
South Tampico	198,129	131,124	901,007
Poza Rica	1,926,268	2,087,726	10,624,230
Isthmus region	474,247	502,678	2,369,852
Total	3,134,728	3,326.536	16,538,714

The production decline of 6 per cent in May compared to April was due almost entirely to contraction of European markets. Internal demand has continued to grow and official sources say this year will establish a new peak for domestic consumption.

Decline of production dictated by shrinkage of European markets emphasizes the necessity for curtailment of operating costs in the petroleum industry of Mexico which has been brought to a head in recent weeks by the decree calling for specific economies.

President Cardenas' reorganization plan for the Mexican oil industry, conceived and executed in the hope of reducing rapidly mounting deficits, went into effect August 1 with three of its most controversial features unsettled. The plan took effect under a provisional agreement between management and workers that may be due for revision some time this month.

Under the adopted plan 3,000 workers will be dismissed, salaries of employes earning more than 700 pesos will be reduced 10 per cent, all administrative salaries are being revised downward and no further replacements will be made when vacancies occur. The unsettled points include payment to workers of house rent, reduction of vacation periods and the payment of savings deposits. The industry's operating deficit has been estimated as high as 68,000,000 pesos.

While the government greeted the temporary settlement happily, it is understood that a considerable portion of the workers is dissatisfied and is seeking to convene an assembly of petroleum workers that would pass on the provisional agreement before it becomes generally acceptable. That the government was more than mildly concerned over such protests is evident from the fact that it has ordered extraordinary precautions to prevent sabotage. This is especially true of the states of Tamaulipas and Veracruz, where the strictest precautions have been invoked.

Reports circulated from Mexico City that negotiations are under way between the Mexican oil administration and Sinclair representatives involving distribution of petroleum products by the company on the west coast of Mexico. No mention of any such proposal was made by H. F. Sinclair, chairman of Consolidated Oil Corp., or Patrick J. Hurley, company attorney, in their discussions of relations with Mexico presented at the Texas proration hearing in Austin last week.

Mr. Hurley told of the crude-oil-purchase contract with Mexico which calls for acceptance of 5,000,000 bbl. annually for 4 years, or a total of 20,000,000 bbl.

Japan . .

Embargo Repercussion Hinted by Spokesman

SPOKESMEN for the Japanese Government have intimated in Tokyo that "repercussions" may develop from the United States embargo on aviation gasoline, but the scarcely veiled threats have not been accompanied by any specific declaration of action.

The spokesman quoted in dispatches from Japan said the embargo was considered in Japan as an effort to kill two birds with one stone, namely the Rome-Berlin Axis and Japan.

"Under whatever pretext the order on aviation gasoline was issued," he said, "it undoubtedly is designed to exert economic pressure on Japan. Since the United States declined to renew the trade agreement with Japan last January, there has existed evidence that the oriental island would eventually turn to the Netherland East Indies for its petroleum supply."

During 1939, Japan obtained only 1,982,000 bbl. of petroleum from the Netherland East Indies, but there is incomplete evidence that this source of supply has been drawn upon to a greater degree so far this year. The Netherland East Indian production amounts to approximately 57,000,000 bbl. annually. The volume available for shipment to Japan, even though trade affiliations are not the most desirable, have grown rapidly this year. The incentive to trade with Japan springs largely from the restricted movement of petroleum products from the Netherland East Indies to Mediterranean and western European nations.

Cuba . .

Withdraw Privilege Of Fuel Storage

PRIVILEGES of storing petroleum and products in bond in Cuba for the fueling of vessels and transshipment have been withdrawn. Persons and companies to whom this privilege had been previously extended are required to declare for consumption existing supplies held in storage and to pay the corresponding import duties and other taxes regularly assessed on such imports.

The decree removing the bonding privileges relates that the change was made in order to decrease the dangers arising from storing large quantities of inflammables and because, actually, only a small percentage of products is reported.

Exports . .

Report Shows Extent Of Foreign Purchases

PETROLEUM products which foreign countries can still purchase from the United States, subject to approval of export-license applications, make up a substantial part of the requirements in several South American, European and Far East countries.

Reports from the Bureau of Foreign and Domestic Commerce covering United States petroleum exports for the first 6 months indicate how extensively some of the foreign countries depend upon this source for their supplies.

SIX MONTHS' EXPORTS

(In barrels)

Crude Petroleum

	1940	1939
France	5,587,000	8,253,000
Italy	1,420,000	2,900,000
Portugal	293,000	.....
United Kingdam	304,000	275,000
Canada	11,562,000	11,418,000
Mexico	214,000	41,000
Cuba	533,000	601,000
Argentina	475,000	1,240,000
Japan	5,399,000	7,844,000
Kwantung	273,000	638,000
All other	355,000	1,739,000
Total	26,415,000	34,949,000

Residual Fuel Oil

	1940	1939
United Kingdom	230,000	199,000
Canada	753,000	243,000
Italy	130,000	878,000
Panama Canal Zone	439,000	358,000
Mexico	674,000	151,000
Chile	718,000	800,000
Japan	2,009,000	2,736,000
All other	1,401,000	2,690,000
Total	6,354,000	8,055,000

Gas Oil and Distillate Fuel

	1940	1939
Italy	173,000	25,000
Netherlands	287,000	1,664,000
Norway	304,000	163,000
Portugal	105,000	92,000
Spain	640,000	312,000
United Kingdom	2,246,000	2,781,000
Canada	250,000	208,000
Mexico	74,000	53,000
Japan	2,547,000	2,957,000
All other	3,946,000	7,137,000
Total	10,572,000	15,392,000

Kerosene

	1940	1939
Netherlands	182,000	508,000
Norway	54,000	82,000
United Kingdom	237,000	685,000
Canada	115,000	86,000
Mexico	15,000	12,000
Brazil	125,000	191,000
China	314,000	119,000
Japan	42,000	20,000
Philippine Islands	241,000	262,000
Australia	112,000	32,000
Siam	180,000	.....
All other	531,000	1,599,000
Total	2,148,000	3,596,000

Puerto Rico . .

Purchase Nearly 1 Million Barrels of U. S. Gasoline

PUERTO RICO purchased 958,100 bbl. of gasoline from United States petroleum refiners in the fiscal year recently ended. The volume represented an increase of 27 per cent over the preceding fiscal year and is the highest total receipts by the insular possession.

Sales of passenger cars and trucks to Puerto Rico increased, gaining 64 per cent over the previous year.

Believe Navy Department Will Try to Obtain Submerged Fields

WASHINGTON, D. C.—A new and indirect attempt by the Navy Department to gain control of submerged oil fields off the California coast is seen by some observers here in plans for construction of a drydock and other naval works at Terminal Island at the juncture of Los Angeles and Long Beach.

It is understood that the Navy is proceeding with plans to condemn a strip of land between the beach and the Union Pacific Railroad right-of-way, which strip contains the most valuable producing wells of the Long Beach field, many of which extend out under the ocean. For some time the Navy has been contending that all oil deposits under the ocean below the low-tide mark are the property of the federal Government and should be retained as naval petroleum reserves.

While the plans are said to call for condemning only the surface rights of this strip of beach, it is thought that once construction begins the operators of the oil wells may be forced to close down, and that in any event the construction works will involve dredging and filling land below the tide mark and that eventually there will have to be a court determination of the title to this land. The suspicion is that the Navy intends to proceed with this work on the assumption that the submerged lands are federal property, and that the State of California and the cities of Los Angeles and Long Beach will then either have to bring suit to defend their claims to the title or else will be forced into a tacit admission that the federal Government owns both the land and the oil beneath it.

For the past couple of years legislation has been pending in Congress to assert federal jurisdiction over submerged oil deposits through one way or another. The latest move was a request from the Department of Justice that either the president or Congress direct it to bring suit to establish this title. It became known today that some 2 months ago attorneys of the department completed all legal research and drew up a bill of complaint ready for filing to secure title to California submerged oil lands, but the attorney general has not yet decided whether or not to file the suit. According to interests opposing the federal Government's claims to such lands, the present action of the Navy Department in making plans for its Long Beach drydock may reverse the situation and force local interests to initiate legal action to establish their claim to this title. In this case the federal Government would be the defendant rather than the complainant, and hence would be in a better position to assert its rights to the submerged lands.

Goodrich and Phillips Have Formed Synthetic Rubber Company

NEW YORK.—To increase the production of synthetic rubber so that additional commercial quantities can be made promptly available for use in national defense and throughout industry, David M. Goodrich, chairman of the board of the B. F. Goodrich Co., and Frank Phillips, chairman of the board of Phillips Petroleum Co., last week announced the formation of Hydrocarbon Chemical & Rubber Co. Facilities for the manufacture of synthetic rubber are being rapidly expanded so that samples of materials and detailed technical information relating to military and industrial uses of the new substances may be put in the hands of prospective users, the statement said. Present production is being substantially increased.

The new company's principal offices will be located in Akron, Ohio. The directors representing the Phillips company are Frank Phillips, chairman; K. S. Adams, president, and G. G. Oberfell, vice president in charge of research. Representing the Goodrich company are David M. Goodrich, chairman; John L. Collyer, president, and T. G. Graham, vice president in charge of production, it was announced. In charge of sales for the new concern will be Ross W. Thomas, who is general manager of the Philgas division of Phillips. Dr. Waldo L. Semon, recognized as one of the nation's outstanding research chemists, will be director of research, it was announced.

The new company acquires from Goodrich its experience in the production and use of synthetic rubbers, and from Phillips the benefits of its vast resources of natural raw materials and its background of hydrocarbon research. Immense reserves of raw materials owned by Phillips assure the new company fullest access to the hydrocarbons necessary for the production of synthetic rubber's butadiene base, the statement stressed.

August 23 Set for Compact Commission Meeting

The midsummer quarterly meeting of the Interstate Oil Compact Commission has been called to meet at the Biltmore Hotel in Oklahoma City on Friday, August 23, Gov. Leon C. Phillips of Oklahoma announced last week. Dr. A. G. White of the Bureau of Mines, Washington, D. C.; Fred Van Covern, director of statistics, American Petroleum Institute, New York City; and H. B. Fell, executive vice president of the Independent Petroleum Association of America, have been invited to address the meeting on the current statistics of production and demand. A study will be made at the meeting of "Petroleum and the National Defense," and Dr. R. E. Wilson, of the National Defense Advisory Commission, has been asked to speak along those lines.

Date of Annual I.P.A.A. Meeting Not Changed

The annual meeting of the Independent Petroleum Association of America will be held at Dallas, Tex., October 16, 17, and 18 as scheduled, it was announced Saturday by C. E. Buchner, executive manager. At a special meeting of the board of directors of the association on July 25 at Oklahoma City, a change in the dates was considered and referred to the executive officers. As nation-wide publicity had already been given to the scheduled dates, it was deemed inadvisable to make any change in dates, Mr. Buchner said.

DEATHS

MAURICE ECKLEY MUTCHLER, 51, general sales manager of the Sterling Engine Co. since 1920, died suddenly July 22 at his home in Kenmore, N. Y. Survivors include his widow, a son, and two daughters.

HERBERT E. GRAU, oil-tool manufacturing executive, died at Los Angeles, July 12, after a short illness. He was chief engineer and plant manager for the oil tool division of Byron Jackson Co., with which company he became affiliated in 1928. His wife, a son, and a daughter survive.

DONALD M. SMITH, assistant district sales manager in the Chicago office of Allegheny Ludlum Steel Corp., died at his home in Palos Park (Chicago) June 21. He is survived by his widow and two sons.

C. EMMETT CALBURN, former oil operator in Centralia, Ill., died last week in a hospital at Tyler, Tex.

LEW ROSS, 67, driller and contractor, died last week at his home near Lenapah, Okla., after an extended illness. His wife, two sons, and two daughters survive.

JOHN M. CHICK, 62, general counsel for the Southwestern Oil Co. until its sale to the Texas Co. in 1926, died July 28 at his home in Tulsa. Death was attributed to a heart ailment.

JOHN G. BARRY, 73, retired oil man of Houston, Tex., died in a hospital in that city on Friday morning, August 2.

JULIUS WILLIAM MARSHALL, 60, auditor for the W. I. Southern Oil Co., died August 2 at his home in Tulsa, following a heart attack. He had resided in Tulsa for 24 years.

CLARENCE B. VANSCHOICK, 71, prominent retired oil producer in the Bradford, Pa., field, died last week at his home in Bradford. Cause of death was said to be angina pectoris. He had been a resident of Bradford for 34 years. Two sons survive.

WILLIAM D. RICHARDSON, 65, formerly president of Cosden Petroleum Corp., Fort Worth, Tex., and more recently head of Motor Fuels, Inc., at Levelland, Tex., died in a Fort Worth hospital, August 4. He formerly resided in Tulsa and Sapulpa, Okla., where he built a refinery, and for several years in Kansas City, Mo. He was the first president of Western Petroleum Refiners Association.

JOHN C. STOREY, 60, purchasing agent for Shell Oil Co., Inc., in San Francisco, Calif., died in San Mateo, Calif., after a short illness. He had been with Shell since 1912.

C. EMMETT COLBURN, 40, lease broker, died at his home in Tyler, Tex., recently. He had been ill of pneumonia.

H. H. FETTEROLF, 72, formerly associated with W. I. Southern, Inc., died in Tulsa on August 4. He was connected with the I. B. Foster Oil Co. prior to his association with the Southern company, from which he retired a year ago.

WILBUR J. THOMPSON, 65, retired drilling contractor, died at the home of a daughter in Centralia, Ill., after an illness of several years. He was born in Warren County, Pennsylvania, where he first became associated with the oil industry.

DWIGHT BRILL, 49, superintendent, Columbia Gas & Electric Co., Zionsville, Ind., was killed in a crash while piloting an Army airplane which he was flying from a field at Fort Benjamin Harrison, near Indianapolis. He was a captain in the Air Service reserve corps and was not on active duty. The plane went into a spin at 9,000 ft.; at 2,000 ft. the mechanic jumped out and came to the ground safely by parachute. At one time Mr. Brill was assistant to the western manager of Chicago Pneumatic Tool Co.

THE MARKETS*

CRUDE OIL: Restoration of the graduated gravity price by Sinclair Prairie Oil Marketing Co. in North Texas and Mexia and moderate increases by Sohio Corp. in certain fields in Illinois, Indiana and Kentucky improved the general crude-market outlook. Sinclair Prairie abandoned the flat posting of 75 cents in North Texas and Mexia which was announced July 16 and made the graduated gravity prices retroactive. On August 1, Sohio posted 93 cents for Storms pool, Illinois, crude, an advance of 3 cents; $1.05 in the Heusler, Ind., pool, an advance of 5 cents and 95 cents in the Birk City and Corydon, Ky., pools, an advance of 5 cents.

REFINERY: The refinery-gasoline market remains soft in all important refining districts. Offerings are in excess of the demand although practically all domestic market outlets report record-breaking volume. Interest in light fuel oils is reviving in middle western and northeastern consuming centers.

TANK-WAGON AND POSTED DEALER: Subnormal tank-wagon prices in Indiana and Illinois have been raised to normal or to within a cent of normal in the more depressed cities by Shell Oil Co., Inc., and Standard Oil Co. of Indiana. A net gain of 1.1 cents was made in the Nashille, Tenn., tank-wagon price.

FINANCIAL: Thirty representative oil stocks moved slightly higher. Average of 30 active stocks for the week ended August 3: High, 21.61; low, 20.94; close, 21.20. Week ended July 27: High, 21.38; low, 20.80; close, 21.12.

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*Detailed information in Market Section.

In the handling of high-pressure gas in pressure-maintenance and recycling projects, consideration must be given for contraction and expansion in the lines transporting the gas. Usually this is accomplished by means of large loops placed in the line at, or near, the plant site. The installation shown is in the recently completed recycling plant of Hunt Oil Co. at the Long Lake field near Palestine, Tex.

ENGINEERING & OPERATION

AUGUST 8, 1940

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COMBATING LOSS OF CIRCULATION IN DRILLING AND CEMENTING
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RAISING ABSORPTION EFFICIENCY BY PRESATURATING LEAN OIL
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VOLUMETRIC-TYPE FLUID METERS
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Rotary-Rig Foundations in Gulf Coast Marshes

By NEIL WILLIAMS

DEEPER drilling with its consequent use of heavier equipment in handling of greater loads and overcoming increased hazards is adding to the problem of providing adequate foundations for rigs on marsh-located operations along the Gulf Coast. Where submersible barges are being employed, the problem has been more or less solved, but in many places operators have occasion or prefer to provide other types of foundations, namely piling or mats, which are subject to uneven settling under excessive loads or weakening by vibration.

In early marsh operations mats were used commonly, and in some locations still prove satisfactory, particularly in those areas where the soil is not too shifting or too great loads do not have to be handled, but with deeper drilling it usually has been necessary to resort to piling. Piling foundations not only are more troublesome to put in and involve considerably greater expenditure but have various other disadvantages as conventionally designed and constructed.

Among the complications in providing rig foundations for deep wells in marsh areas is the necessity for extra high derrick floors. Because of the marsh, digging of cellars to accommodate the massive blowout preventer and well-control assemblies commonly used in modern deep drilling on the Gulf Coast is impracticable and consequently substructures and derrick floors must be elevated accordingly. Also, most marsh areas usually are subject to tidal overflow at times so that it is desirable to have the derrick-floor level well above any high-water mark.

Subject of Much Study

With such elevations, sometimes as much as 15 or 16 ft., conventional construction of piling foundations adequate to meet the load requirements of modern deep drilling entail such extensive use of piling and bracing that generally little clearance is left for handling and moving in and out of control equipment below the derrick floor, and otherwise work of operators below the derrick floor is obstructed. Even with extensive bracing it has been difficult in conventional rig foundation design to eliminate vibration and prevent weakening of the structure.

Design and construction of marsh rig foundations has been the subject of considerable study on the part of Gulf Coast operators. Generally, this has only resulted in the addition of more and heavier piles and more bracing to the structures.

However, some new ideas in design and principles of construction that not only effect greater strength, support, and rigidity in piling foundations with less piling and bracing but also result in substantially reduced costs of building, were incorporated in a foundation job recently by Dewey T. Ross Engineering Co. for one of the larger oil companies in a Texas coastal marsh field. The structure was designed by Anderson Engineering Corp. in collaboration with engineers of the oil company and Dewey T. Ross Engineering Co. Details of the foundation design and construction are shown in an accompanying drawing and pictures.

Foundations in this first job were for a 24-ft. base derrick, the size used in that field, and called for the use of a 5-ft. steel sub-substructure below the regular 8-ft. steel substructure to give the desired derrick-floor elevation of 15 ft. 8 in. above the marsh level. Piles were cut off approximately 1 ft. above marsh level to allow for the 2 ft. of height provided by the 12 by 12-in. sill timbers.

Cutting the piles off a foot above the marsh level is a factor in increasing the rigidity and strength although, as the foundations are constructed, the piles could be another 3 or 4 ft. higher without detracting from their effectiveness. In actuality, the cut-off height is variable to accommodate different derrick-floor levels. Thus, if desired, the steel sub-substructure can be eliminated, and the derrick-floor level raised by a higher cutoff of piles.

Advantages of Steel Sub-Substructures

There are, however, several important advantages in the use of the steel sub-substructure instead of extended piling. With the steel structure there is more open, unobstructed space below the derrick floor, facilitating the installation and operation of the massive control assemblies. Also, when a well is completed, the steel sub-substructure can be moved with the rig, and remaining there will not be a lot of high-cut piling to be cut off, pulled or left protruding around the christmas tree. The low-cut piling can be left intact as foundations for workover rigs and pumping units that might have to be moved on later, thus effecting an important saving in foundation rebuilding.

On the other hand, if it is desired to let the piling extend higher above the marsh level and not use the steel sub-substructure to raise the derrick-floor level, the design of this foundation is such that there would be much less obstruction and more open space under the floor than in conventional piling foundation construction. This is due to the fact that the number of piles required is greatly reduced as indicated in this job, in which only 30 piles were used for the entire derrick and engine foundations. Ordinarily more than 60 piles would be needed. Also the need for a great amount of cross bracing is eliminated by the new foundations.

Design and construction of foundations for rotary rigs operating on marshy locations are being given more study by Gulf Coast companies as depth of drilling, with consequent use of heavier equipment, increases. Piling and mats are widely used, but usually are subject to uneven settling under excessive loads or weakening by vibration. At a recently designed job in one Gulf Coast field, the principles of construction gave greater strength, support and rigidity to the piling foundations, with less piling and bracing being required, so that costs of building were substantially reduced.

Vibration, which has the tendency to undermine the support of most piling jobs, is almost if not entirely eliminated by this newly designed foundation, which is as rigid as most any dry-land rig structure. By a simple yet unique corner construction the corner piles tend to brace themselves against any stresses and movement, and in the way the corners and the rest of the foundation are tied together and braced, the entire structure, including derrick and engine foundations, forms an integral unit resistant as a whole to vibration and loads. The layout and construction is such that greater the load and stress the stronger and more rigid the foundations become. Only by lifting the structure can the piles and foundation be weakened.

Ordinarily, in piling foundations for rigs, a corner consists of a cluster of three or four piles with their tops tied together. In this new job the piles are spaced. Four piles were used, two being driven on a line lengthwise with the structure for support of the lengthwise or side sill, and two on a line at right angles for support of the cross sill. The two piles of the same sides are spaced 6 ft. apart, and as driven, the four piles form the corners of a square, in which the lengthwise and cross sills intersect at the mid point for the support of the substructure leg.

Counteracting Engine Motion

For bracing to counteract the forward and reverse motion of the engine, the two piles of each corner which support the lengthwise sills are 1 in 4 batter driven. Thus, part of the force of the engine motion is exerted downward against these piles instead of horizontally, which would cause them to vibrate and loosen. In the way the structure is tied together into an integral unit, the force of the engines is distributed uniformly to all corners so that no individual corner is subjected to excessive strain.

Lengthwise sills are laid first, and then securely bolted down to the piles. The cross sills then are drifted in under them. Short additional 12 by 12-in. timbers are bolted on each side of the lengthwise sills at the corners to provide greater base area and support for the legs of the substructure. All sills are 12 by 12-in. timbers, which for the 24-ft.-base derrick used in this first job are 32 ft. long. In this structure 40-ft.-long timbers were used.

Eight piles provide the main support for the rotary foundation, four being driven for each of the two cross-sill members, on which are supported the two main rotary sills. The latter sills, each 26 ft. long, extend entirely through the structure lengthwise, the ends resting on the front and rear cross sills of rig foundation. The two rotary cross-sill members are 14 ft. long and do not extend entirely across the structure. Two of the

four piles under each of them are driven under their respective ends, with the other two under the point of intersection of the lengthwise rotary sills, which are spaced 6 ft. apart, center to center.

Providing additional support for the extra load imposed on the rear cross sill by the rotary sills resting on it and by the draw works and pipe stand above are two more piles driven at points under the cross sill where the rotary sills rest on it. The back cross sill also is called upon to support the front ends of the engine foundation sills, which are bolted onto it at that point, overlapping the rotary sill ends.

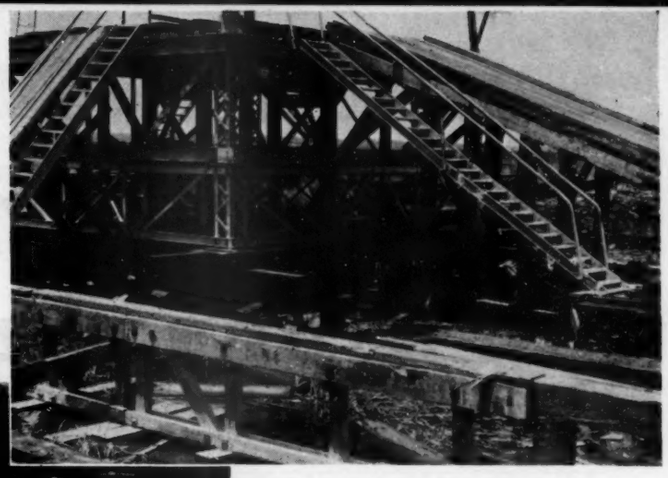
For additional support, the lengthwise rotary sills rest on another cross member, supported on two piles, between the back rotary cross sill and the rear cross sill of the structure.

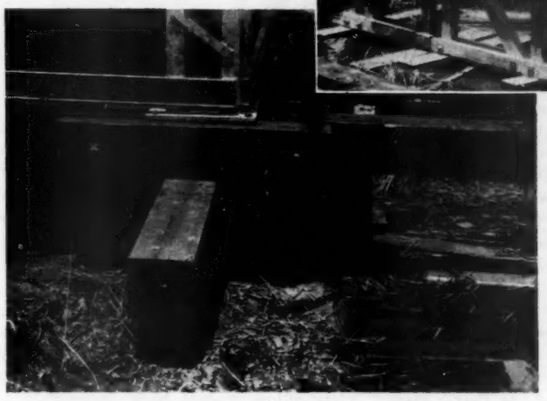
A batter-driven pile under the mid point of the front and cross sill, and to which the sill is bolted, provides additional bracing to assist in counteracting any vibration imposed upon the structure by engine motion. For the next foundations built it is planned to drive an additional battered piling at this end, one at the end of each of the two rotary sills.

The only other piles required for the derrick foundation were one under the mid point of each of the lengthwise sills.

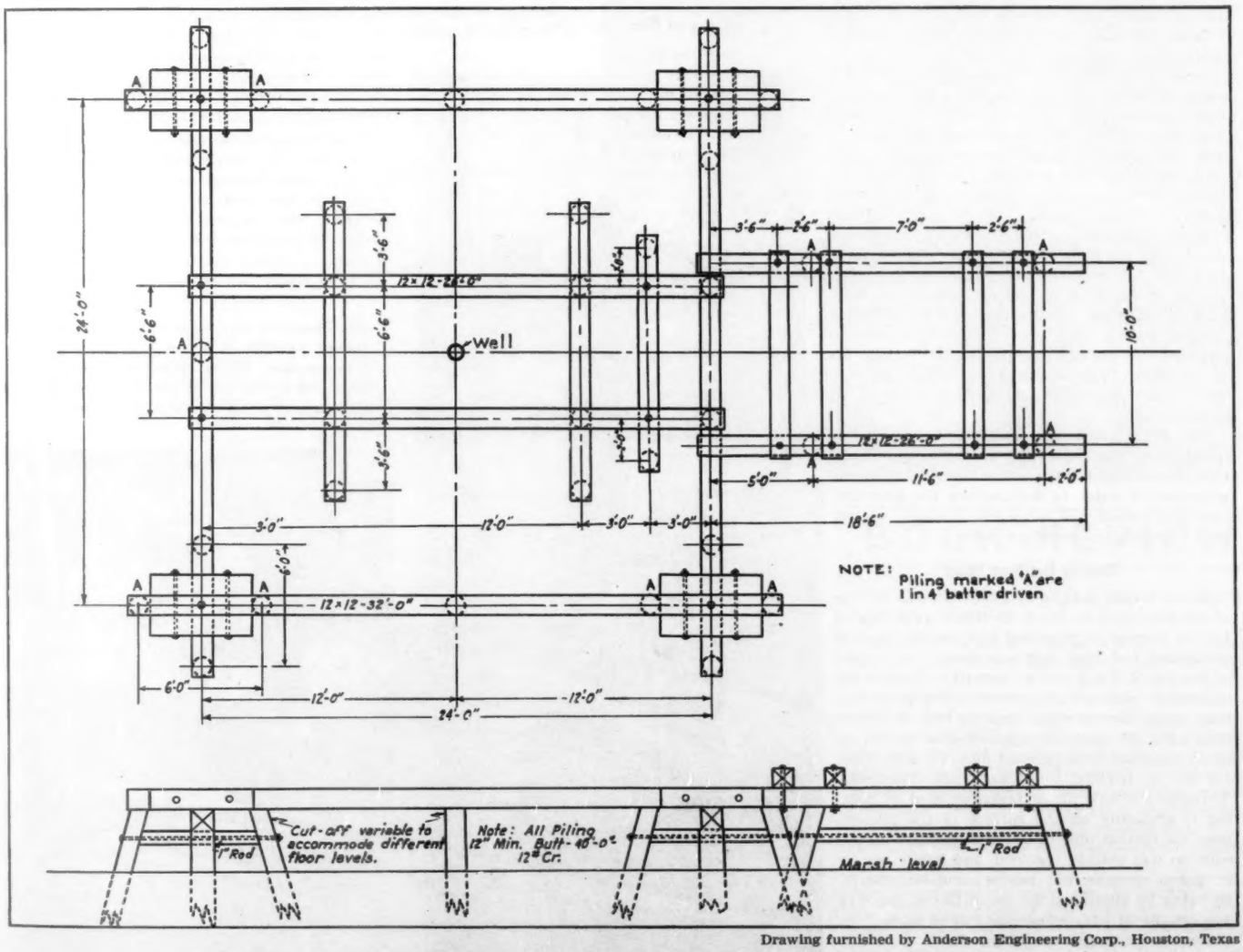
Four piles, two to a side, were driven for the engine foundation. These were 1 in 4 batter driven to counteract the vibration force of the engines. Tops of the two front piles are 5½ ft. back of the rear sill of the derrick foundation with the two back piles spaced 11½ ft. from the front. Sills of the engine foundations are 20 ft., 12 by 12-in. timbers. They are bolted to the piles, and also, as previously stated, their front ends are supported on and bolted directly to the back cross sill of the rig foundation. This makes the engine foundation an integral part of the structure as a whole, which adds to the strength and ability of the structure to withstand the force of vibration. Side play of the two lengthwise sills of the engine foundation is prevented by four cross members, each 10 ft., 12 by 12-in. timbers, which are securely bolted in place. These cross members provide a firm base for the drilling-engine skids.

Corners and legs of the derrick foundations were designed to sustain loads of as much as 1,000,000 lb., and are adequate for rigs drilling to depths of 10,000 ft. By a few additional piles, 15,000-ft. tests could be drilled.





Below: Corner of newly designed piling foundation for drilling rig, showing batter-driven piling and spacer, and sill construction. Right: General view of derrick substructure and sub-substructure used with newly designed piling foundations



Drawing furnished by Anderson Engineering Corp., Houston, Texas

Plan of newly designed piling foundation for drilling rigs on Gulf Coast

Combating Loss of Circulation In Drilling and Cementing

By J. B. STONE
Dowell Incorporated, Tulsa

RECENTLY there has been inaugurated a new method for preventing loss of cement slurry or drilling mud into porous formations and for regaining lost mud circulation. The method employs a flaky organic material called Jelflake, which is mixed in relatively small proportions into the cement slurry or mud. Its use has been phenomenally successful in the field. Extensive laboratory and field tests have demonstrated the vast superiority of this material over other substances commonly used to plug highly permeable formations.

The material is a chemically inert product, fabricated into small paper-thin particles. It is not deteriorated or softened materially by water, oil, mud or cement slurry; and the flakes, as they are called, are tough and strong even when wet.

These flakes are treated by a special chemical process in order to give them a crinkled surface so that they will not adhere to each other when mixed with mud or cement slurry. Since Jelflake has a density quite close to that of mud, it will remain suspended indefinitely in mud or cement slurry.

Although it can be manufactured in a wide range of sizes, at present it appears that the most advantageous thickness is 0.001 in. The lengths and widths are somewhat irregular, varying from ½ to 1 in. No difficulty has ever been experienced in pumping either a mud or a cement slurry to which Jelflake particles of this size have been added.

Because of their extreme thinness, the flakes are flexible and pliant. This property enables them to cover the irregular and rough surfaces of a porous formation. When cement slurry or drilling mud in which the material has been mixed enters such a porous thief formation, the flakes are strained out. In this manner there is built up on the face of the formation an impervious wall which does not allow mud or cement slurry to pass through it.

This new method of regaining circulation is attaining universal use. In the southern Illinois field, for example, it has found almost unanimous adoption. In order to demonstrate the effectiveness and economy of using this material, several case histories are described below.

Use in Drilling Mud

In the Salem pool of southern Illinois, in one of the first wells to which the flakes were applied for the purpose of regaining lost circulation, mud circulation had been lost completely for 5 days at the top of the Devonian formation. Several unsuccessful attempts to restore circulation had been made, during which time 30 tons of cotton-seed hulls, 200 sacks of prepared mud and all reserve mud had been pumped into the well. Then 200 lb. of Jelflake were uniformly distributed throughout a new pit of prepared mud by placing it gradually on the surface of the pit and near the suction pipe of the mud pump. Full circulation was quickly regained, and 500-lb. per sq. in. pump pressure was reached and maintained. By using an additional 250 lb. of flakes, the well was completed with no serious loss of mud.

Another drilling well in the Salem pool had been losing mud steadily. Before the new material was used, 6 tons of cotton-seed hulls and 3 pits of commercial mud had been lost. When 250 lb. of the flakes had been added by hand to the pump suction, circulation was gradually regained. Finally circulation was completely reestablished and no further difficulty was encountered.

Use in Cementing

Use of the material to prevent loss of cement slurry is now an established practice. In the Salem pool the new flakes have been used in over 200 cementing jobs, with amazing results. Before their recent introduction it had been impossible to circulate cement to the surface in the majority of Devonian wells in southern Illinois without the use of mechanical devices such as a two-stage method tool, and these jobs were often unsatisfactory.

An example of the use of the flakes in cementing operations is a well in the Salem pool. This was the second Devonian well in this area in which cement was circulated out into the pits, although similar results have since been obtained dozens of times. As this well had been drilled with a great deal of difficulty due to lost circulation, the presence of thief formations was indicated.

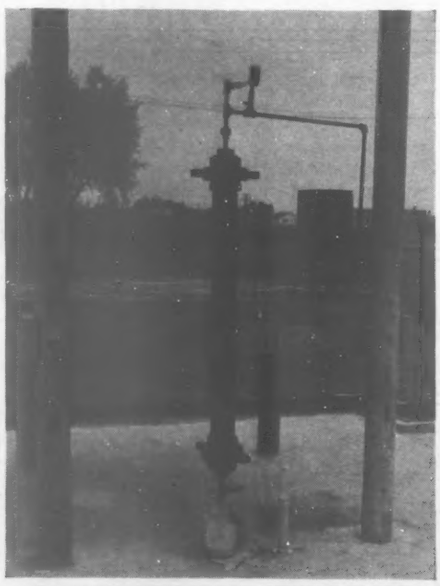
The total depth of this well was 2,903 ft. and 5⅛-in., 14-lb. casing was to be cemented in an 8⅞-in. hole. The flakes were mixed with the cement slurry in a mechanical mixer, in the proportions of a little less than 1 lb. of flakes to one sack of cement. In all 800 lb. of Jelflake, 904 sacks of cement, and 23 bags of Aquagel were used. Within an hour after cementing operations began, the slurry was being circulated from behind the casing.

Loss of Fluids Into Porous Formations

Lost circulation of drilling mud has been a source of difficulty ever since the beginning of rotary drilling. When circulation is lost, both time and materials are wasted, and therefore it is usually a costly operation to regain it. Although lost circulation is much more prevalent in some fields than in others, some difficulty has been experienced in practically all rotary-drilled oil fields in this country.

In the Illinois fields, particularly, either partial or complete loss of circulation occurs quite frequently. It has been conservatively estimated that some mud has been lost in 50 per cent of the Devonian wells in this area, and that complete circulation has been lost in at least 25 per cent of them.

Loss of mud into a formation is largely depend-



Left: Equipment used for testing sealing qualities of various materials in a formation under extremely high pressure. Below: Mixing the new flaky material with drilling mud in a jet-type mixer; the plugging material is fed into the hopper slowly.

ent upon the size of mud particles, the wall-building properties of the mud, and the size of the pores in the formation, although, of course, it is also dependent upon the viscosity and hydrostatic head of the fluid and the permeability of the formation. The so-called thief formations have a high porosity and permeability. The only wells in which the flakes have not been 100 per cent successful are those which appeared to have porosity approaching a cavernous condition.

Plugging Materials

When cases of serious loss in circulation were encountered heretofore, it was the general field practice to add to the mud large quantities of solid materials in the hope of plugging up the formation. For this purpose such materials as cotton-seed hulls, grains, wheat bran, chopped-up hemp rope and wood shavings have been used. In some cases these materials partially plugged the formation to such an extent that it was possible to restore lost circulation. Usually, however, a large quantity of mud was lost throughout the remainder of the drilling operations.

Loss of cement slurry into thief formations is another very serious problem for the operator. Since the cementing of pipe occurs also in cable-tool areas, this problem is even more extensive than the loss of mud. In Michigan, for instance, where standard tools are used, there is no mud-loss problem. However, the cementing of the drive pipe line through the unconsolidated glacial drifts has always been a very tricky problem—in many cases, one which could not be solved. The use of Jelflake in the cement has made satisfactory cement jobs possible in such cases.

Laboratory Testing

The laboratory investigation of this new additive material was made principally in a regular commercial low-pressure wall-building apparatus. This apparatus was equipped with a 12-in. mud barrel so that sand could be used instead of the regular filter paper which is commonly used in the smaller wall-building testers.

In making a test, 4-in. of water-wet Ottawa sand were placed on the bare screen at the bottom of the barrel. This type of sand was selected in order to simulate conditions found in the usual thief formation.

A commercial mud, made up to a weight of 9.7 lb. per gal. and with an A.P.I. Marsh viscosity of 66 seconds, was used in all the tests. The various materials being tested were added to the mud in the proportions of 3 per cent by weight of the mud.

Results of Tests

Each of the tests was conducted using the same procedure. Several hundred cubic centimeters of mud containing additive agents were placed on the sand in the mud barrel, and then the rate of mud flow through the sand at 100 lb. per sq. in. pressure was determined. In this manner the plugging abilities of the various materials could be compared. The results of these tests are shown in the table.

From this table it is seen that Jelflake is much superior to the other substances tested in ability to form an impermeable mud cake at low pressures. All other additive agents permitted practically all of the mud to flow through the sand in a relatively short time. The flakes, however, allowed only 150 cc. of mud and water through the sand in the first 5 seconds, while no mud and only 7 cc. of water were lost during the next 30 minutes. This rate of water loss through the Jelflake-mud mixture is even lower than that recommended by the leading mud companies for their muds in the filter paper test.

The above series of tests, although undeniably convincing, may leave some doubt as to the ability of the flakes to plug off the sand at elevated pressures. In order to thoroughly test this material, an apparatus was constructed in which this test could be run at 5,000-lb. pressure. The apparatus consisted principally of a 3-ft. section of extra heavy 3-in. pipe, equipped with 3-in. unions in order to facilitate loading and unloading. One foot of Ottawa sand was placed on the screen of the tube, and the tube was then filled with mud to which 3 per cent of flakes by weight of mud had been added. At 5,000-lb. per sq. in. pressure Jelflake maintained a wall through which there was no loss of mud, and the loss of water was only ½ cc. per minute.

QUANTITY (CUBIC CENTIMETERS) OF MUD AND WATER THROUGH THE SAND IN VARIOUS PERIODS OF TIME

Agents added to Aquagel—	5 Sec.	15 Sec.	30 Sec.	1 Min.	5 Min.	10 Min.	15 Min.	20 Min.	30 Min.
Aquagel only	500	...	...	...	...	...	...	...	...
Jelflake	150	150	150	150	151	153	155	156	157
Mica flakes	300	500	...	...	...	...	...	...	...
Sawdust	300	500	...	...	...	...	...	...	...
Cotton-seed hulls	350	500	...	...	...	...	...	...	...
Wheat bran	295	500	...	...	...	...	...	...	...
Wood shavings	290	450	...	...	...	...	...	...	...
Shredded sugar cane	100	200	240	280	375	400	405	410	420
Chopped hemp rope	305	450	...	...	...	...	...	...	...
Straw	200	400	...	...	...	...	...	...	...
Flax seed	300	550	...	...	...	...	...	...	...

Right: Pump suction and drilling mud with which the flakes have been mixed preparatory to stopping loss of circulation in a well

Below: Dumping Jelflake into the hopper on a cement truck where it is mixed with the slurry and pumped into the well, thus insuring against loss of circulation while cementing

BOOK REVIEW

*FUEL-FLUE GASES. Published by American Gas Association. Price $5.**

"Fuel-Flue Gases" is intended primarily to furnish details on the interpretation and application of chemical analyses and tests, but it goes far beyond such a narrow scope because it brings together, in convenient form, information on many new applications of gases.

The book, of 198 pages, is divided into nine chapters: The first five deal largely with fuel gases, the sixth with the chemistry of the distribution system and its problems, and the seventh chapter with atmospheres other than those composed of combustion products. The last two chapters deal particularly with gases which result from combustion of industrial fuels and fuel gases.

*"Fuel-Flue Gases" may be purchased through the Book Department of The Oil and Gas Journal at the established retail price of $5, postage prepaid (extra outside the United States), and a copy will be forwarded promptly upon receipt of check or money order for that sum. Where payment or company purchase order is not provided, the book will be sent c.o.d. to avoid delay.

Fire Burning in Bottom of Well Discovered at Oklahoma City

By T. P. SANDERS

FROM all evidence available it has been concluded that a fire recently started and burned for some time in the bottom of one of the 6,500-ft. Oklahoma City wells, generating enough heat to melt a sand line. While it is possible that incidents similar to this may have occurred in shallow input wells on air-repressuring projects, there is no knowledge here of such ever having occurred, and it certainly has never occurred before in a normal producing well in the Oklahoma City field.

The well, known as Sandness No. 1, is owned jointly by Anderson-Prichard and Phillips Petroleum Co. A report on the bottom-hole fire was made by J. P. Stephens, Phillips' division superintendent at Oklahoma City, as follows:

"Phillips Petroleum Co. moved in a motorized steel front and for 4 days attempted to fish out tubing and rods which had been dropped in the hole. Fishing proved unsuccessful, so tools were run in an attempt to drill by the junk so that a shot could be placed to shoot it out of the way. The hole was finally cleaned after 13 days had elapsed, and a shot was placed from 6,408 to 6,447 ft. In making up the shot there were used five 3-in. by 3-ft. tin shells, three 3½-in. by 8-ft. Risonite shells, two cave catchers, a 24-hour time bomb, and a 1½-cu. yd. sand tamp. The explosion was clearly heard at the surface.

"Normal cleanout work was started immediately and no unusual conditions were noted. Four days after the shot the sand line broke, leaving a sand pump in the hole. This was fished out undamaged after 32 hours. Then 8 days after the shot the 5½-in. sand line pulled in two 1,300 ft. above the sand pump. After dark that same day the driller was successful in getting hold of a section of the line with a center spear. The tool pusher was at the well when this piece of line was pulled out.

"When the fishing spear reached the surface all present were astounded to see that the section of recovered line was burning brightly, with flames shooting out 2 ft. or more from the oil-soaked line and the hemp core. The fire was extinguished as quickly as possible, and it was found that the line was fused in places indicating high temperatures. The tool pusher, recognizing the peculiarity of the situation, placed a sheet of paper over the well head to determine whether or not air was entering the well and thus furnishing oxygen to support combustion. He has stated that there was definitely a "downdraft" in the well. This draft, while not sufficient to pull the paper into the hole, was strong enough to hold it on the connection.

"The tool pusher immediately ordered a quantity of water pumped into the well and then had it closed in for a short time. Soon operations were started again by continuing to fish for the remainder of the sand line and the sand pump. No further trouble with fire was encountered. Nevertheless, the upper sections of the recovered sand line had been melted and in places sand was fused into the cracks in the line. This sand and other bailed from the well had a tough glassy characteristic that is common to sands which have been heated to high temperatures. Two days later fishing was completed and the pump was recovered. It had apparently been immersed in fluid which protected it from the fire.

"Since this trouble occurred so long after the shot (the only other possible source of high temperatures) it has been concluded that there must have been a fire at the bottom of the well. The records of the Anderson-Prichard company do not show evidence of any line ever having been left in the well; therefore the melted line fished out could only have been that run into the well after the shot was detonated. Also, the portion of line still attached to the pump when it was recovered, was in the same condition as the fused line which was fished out separately.

A. E. Riggs, foreman for Anderson-Prichard at Oklahoma City, shows samples of a sand line which was melted by a fire in the bottom of a well. Notice the large globule of fused steel immediately below his hand.

"To explain the fire this theory is advanced: All offsets to this well were under 4 in. of vacuum at the surface when the fire occurred and were producing from 2,000 to 65,000 cu. ft. of gas per day. The upper section of Wilcox sand in the Sandness No. 1, is probably now drained of oil, leaving it in a very porous, yet semisaturated, condition. When this well was opened at the surface the vacuum at the offsets started pulling air down the casing and into the porous saturated sand. Air in this sand combined with the gas vapors from the oil in the sand to form a combustible mixture which was ignited either by the heat of friction or from a spark that was created by the fishing tool. The vacuum pulling the air toward the offset wells drew the fire back into the sand, thus furnishing it with additional fuel."

While the bottom-hole fire complicated the fishing job somewhat by melting the sand line so that it was divided into a number of pieces, it probably did not cause any appreciable injury to the well. The incident is of interest mainly as a freak, but it does prove that subterranean fires are possible in oil pools. It is conceivable that enough air could be drawn into a depleted sand through application of vacuum at nearby wells so that the resulting combustion would destroy subsurface pumping equipment and deposit sufficient carbon on the face of the pay to restrict production.

●

New Directory of Montana Mine Properties Published

Memoir No. 20 of the Montana Bureau of Mines and Geology, known as the "Directory of Montana Mining Properties," is now ready for distribution, according to an announcement by Dr. Francis A. Thomson, director of the bureau. The memoir will be distributed from the president's office of the Montana School of Mines and a charge of $1 per copy will be made.

The new volume consists of 112 pages of text, covering the history, financial setup, officers, properties, operations and equipment of close to 500 metal and coal-mining ventures. The text is supplemented with 29 maps and 4 indexes. One of the indexes gives the names of all the individuals mentioned in the directory. The directory was compiled by the Work Projects Administration, the authors being Carl J. Trauerman and Cecil R. Waldron, respectively supervisor and assistant supervisor of the project. Cooperating in the compilation of the new Memoir were the Montana Bureau of Mines and Geology, the Montana School of Mines and the Mining Association of Montana.

Standard of Indiana Employes Receive Fifteen A.P.I. Safety Awards

Fifteen safety awards have been won by employes of the Standard Oil Co. of Indiana from the American Petroleum Institute, Pres. Edward G. Seubert of Standard has announced.

Each award recognized success in preventing accidents in a different branch of operations for 1,000,000 or more man-hours of work without loss of time or disabling injury because of accident.

Eleven of the awards were won by employes in the Standard refinery at Whiting, Ind.

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AT 5200 FEET Fred started worrying. "There's a mile of casing to go in that hole," he says. "When I think of what will happen if it ever gets away from us . . ."

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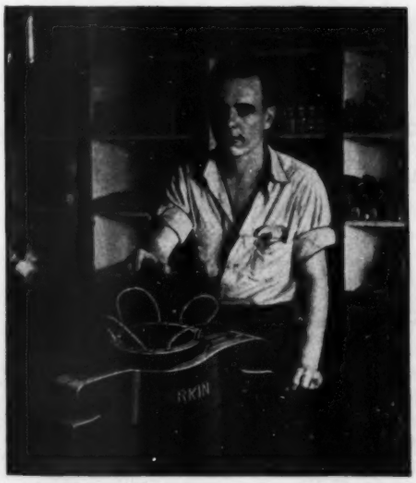
The Larkin Split-Type Spider

The Larkin Solid Spider



LARKIN SPIDERS are easy to handle. They're labor savers, and trouble proof, too. On many jobs they're taking the place of casing clamps. Forged steel slips working in the correct taper hold the casing with teeth that stay sharp. The slips are so tough there isn't a grade of pipe can phase them.

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IT PAYS TO BUY instead of renting one. For *extra* economy, specify several sizes of extra slips when you order. Larkin Spiders are so strong, so dependable, so low in initial cost, so high in salvage value you will quickly agree with the hundreds of operators who say; *"It pays to get a Larkin Spider!"*

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Mechanism of Aromatization and Xylene Thermal Isomerization

By A. F. DOBRYANSKII and F. YA. SAPRYKIN
Leningrad State University, U.S.S.R.*

IT is known that, when benzene is pyrolyzed at relatively low temperatures, a relatively larger yield of higher aromatic hydrocarbons is obtained then when it is pyrolyzed at higher temperatures. This would indicate, and it has been proven experimentally,[1] that the simpler aromatic hydrocarbons such as benzol and toluol should be formed from their higher homologues during pyrolysis. It is also known that the xylenes obtained from coal tar differ from the xylenes produced by the pyrolysis of petroleum.

R. Obolentsev[2] showed that the relative distribution of the isomers in the xylenes depends upon the temperature of the pyrolysis; at high temperatures *m*-xylene is the main isomer formed while the amount of *o*-xylene formed progressively decreases as the temperature increases. However, as the total xylene fraction showed a marked increase in quantity with increasing temperature of pyrolysis, no conclusion could be drawn[3] as to why the *m*-xylene predominates at the higher temperatures, and it raises the question of whether the predominance of the *m*-xylene might have masked the presence of the other xylenes, and also the possibility of the conversion of the other xylenes with *m*-xylene. Therefore, the effect of temperature on xylene structure using the pure isomers was investigated.

o-Xylene was prepared from pure *o*-bromtoluol and methyl iodide by means of the Fittig synthesis. The *o*-bromtoluol was prepared from *o*-toluidine. The yield of *o*-toluene was about 40 per cent and its purity was checked by oxidation to phthalic acid which, when corrected according to Erhardt, gave a yield of about 95 per cent. In this case neither iso- nor terephthalic acid was detected.

p-Xylene was likewise obtained from *p*-bromtoluol and methyl iodide and the *p*-bromtoluol was obtained by diazotization of *p*-toluidine in the presence of copper bromide. All intermediate products were checked for purity. Oxidation of *p*-xylene (corrected according to Erhardt) yielded 97 per cent terephthalic acid. Other isomers were absent.

m-Xylene was obtained from a commercial xylene by oxidizing the isomers for 12 hours with two volumes of 1.12 sp. gr. nitric acid. The residual *m*-xylene was sulfonated in order to separate it from the gasoline, the sulfonate being subsequently decomposed into the *m*-xylene by means of superheated steam. The sulfonic acid had a melting point of 55°-56° C. while the *m*-xylene obtained from it had a boiling point of 139° C. and gravity d_4^{20} 0.865. The yield was 156 g. per l.

The above isomers were pyrolyzed by heating in a porcelain tube (heated portion 30 by 500 mm.) in an electric furnace at 700°, 730°, 750°, and 770° C. with a velocity corresponding to 2 g. per minute.

The main product was toluol in each case. The other condensates and the gases formed were not investigated. The results are given in Table 1.

TABLE 1—RESULTS OF THE PYROLYSIS OF XYLENE ISOMERS

	o-Xylene				*p*-Xylene				*m*-Xylene			
Temp., °C.—	Xylene return. from reactn. in %	Toluene %	Per cent condensn. products	Per cent gas by wt.	Xylene return. from reactn. in %	Toluene %	Per cent condensn. products	Per cent gas by wt.	Xylene return. from reactn. in %	Toluene %	Per cent condensn. products	Per cent gas by wt.
700	80.3	4.6	12.1	2.1	89.4	2.1	6.9	0.9	93.8	1.7	3.7	0.4
730	67.8	8.2	18.6	4.3	76.8	4.6	14.1	3.7	78.8	5.3	10.3	4.2
750	53.1	11.5	24.8	8.9	61.4	7.9	17.8	8.9	63.1	11.0	15.2	9.0
770	43.9	12.8	25.4	14.8	49.2	13.3	19.3	14.8	43.8	15.4	22.9	15.0

TABLE 2—THERMAL ISOMERIZATION OF XYLENES

	o-Xylene (xylenes in %)			*p*-Xylene (% xylenes)		
Temp., °C. —	*o*-	*m*-	*p*-	*o*-	*m*-	*p*-
700	95.0	5.0	traces	0	1.3	98.7
730	88.4	9.6	2.0	0	4.8	95.2
750	72.9	20.6	6.5	0	6.6	93.4
770	51.3	38.2	10.5	0	7.7	92.3

The xylene fractions were oxidized under standard conditions and the corresponding phthalic acids separated and identified by means of their melting points. In the case of isophthalic acid, methyl esters were also prepared. The amounts of the xylene isomers were calculated from the weights of the acids and then expressed in percentages of the original xylene. The yield of the individual isomers is given in Table 2.

At all the temperatures investigated *m*-xylene is the most stable; hence its accumulation in the products of reaction. At lower temperatures toluol is formed most readily from *o*-xylene, while at higher temperatures it seems to form more readily from *m*-xylene.

Generally speaking isomerization does not affect the yield of toluol although its exact role is not understood.

o-Xylene produces the largest amount of condensable products and is therefore the least stable. Hence it might be expected to be most sensitive to isomeric transformations. *m*-Xylene is the most stable isomer. After oxidation of the xylene fraction from the products from the pyrolysis of *p*-xylene, phthalic acid could not be detected. Hence it is concluded that *p*-xylene does not isomerize to *o*-xylene.

The fact that *m*-xylene is not formed during the pyrolysis of either *o*-xylene or *p*-xylene is explained by the stability of the *m*- structure. The main reaction of this isomer is decomposition to toluol and condensable hydrocarbons. The main reaction of the other isomers when pyrolyzed is isomerization. However, from the data presented no conclusions can be drawn as to whether these isomers are subject to toluol decomposition while in the *m*-xylene stage. It seems most probable that decomposition and isomerization are simultaneous but independent reactions.

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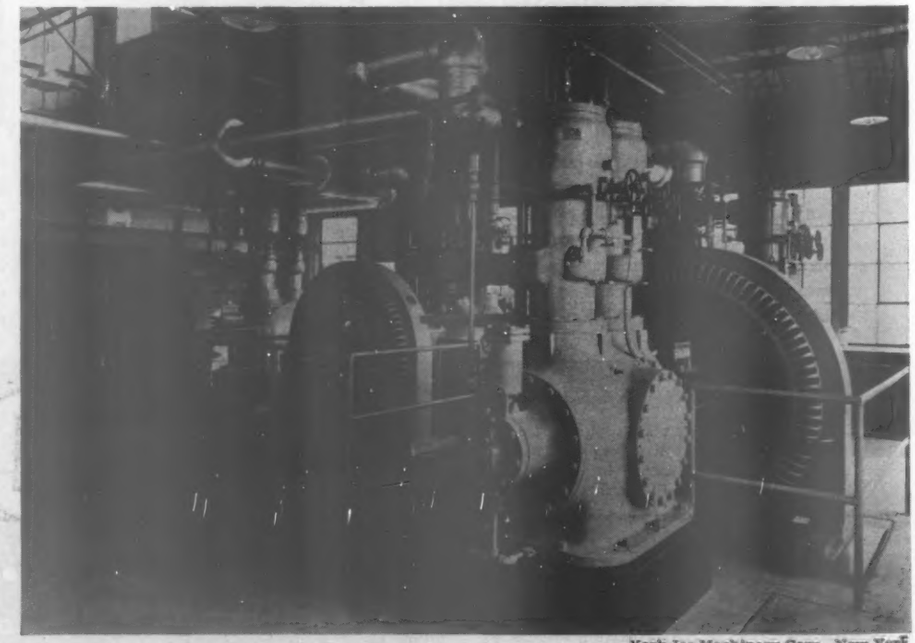
*Translated and abstracted by A. A. Boehtlingk, Berkeley, Calif. Journal of General Chemistry, U.S.S.R., 9, 1313-14 (1939).

This abstract is submitted by the petroleum division of the American Chemical Society, which, however, assumes no responsibility for the facts and opinions presented in this paper, nor does it necessarily endorse statements made therein.



York Ice Machinery Corp., New York
Refrigeration plant for an acid-treating process at the Wilshire Oil Corp. refinery in Santa Fe Springs, Calif.

Operating Ideas

Hanger for Top of Tank-Battery Stairway

Attaching the top of a stairway made from pipe on the lease is often a difficult task, but this Kansas operator solved the problem. Rectangular frames were made with one of the sides having an extension on each end. The extensions rest on the top of the tank battery and are held in place by clamps. A ⅝-in. steel strip welded to the end of each of the frames holds them apart and provides a base for the 2-in. pipe flooring. Ends of the stairway runners are bolted to the platform. The top side of the pipe rectangle nearest the stairway is then cut out to permit access to the platform.

Clamp Used to Ground Truck While Unloading

Although the truck which brings natural gasoline to an Oklahoma refinery is grounded by means of a chain which drags along the ground the refinery superintendent has ordered the unloading line from the truck to be grounded while deliveries are being made This is done by means of a flexible metal cable of convenient length, one end of which is buried in the ground while the other end is soldered into the handle of a strong spring clamp. This clamp can be quickly attached to the metal pipe connection by squeezing the handle.

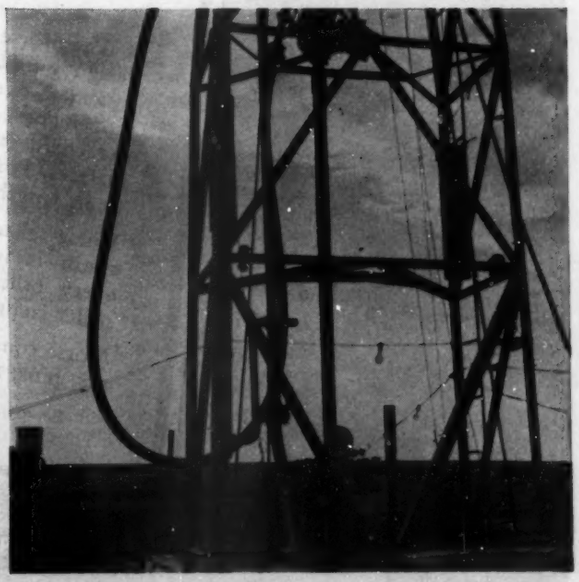
Protectors Saved by Placing on Rack

One method of increasing the life of tool joints is to prevent damage to their faces while moving; this requires that the protectors be installed when the pipe is laid down and removed just before running the joints in the hole. To prevent loss of the protectors, one major oil company uses a rack made from 2-in pipe and sucker rods and placed immediately outside the V-door. All of the protectors have holes through the centers and it is an easy matter to remove the protector from the joint and place it on the rack.

Steel Plate for Guarding Pressure Gage

It is often necessary to use a pipe wrench as a helper in turning the flow valve on a high-pressure well or on a flowing well on a pressure-maintenance project. In this particular case the pressure gage was in danger of being hit with the handle of the wrench so that steel guards protecting the gages were clamped to the valves.

Air Chamber Fastened to Derrick Leg



Instead of having the standpipe air chamber separate so that it will have to be rigged up on each location, some portable rigs have it fastened to the derrick. The standpipe also stays in place, it being only necessary to disconnect or connect the hoses from the swivel and mud pump when tearing down or rigging up. For lowering the derrick, the union just above the mud gage is broken.

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Raising Absorption Efficiency By Presaturating Lean Oil

By A. J. L. HUTCHINSON and ERNEST MONCRIEF
The Fluor Corp., Ltd.*

EVER since the earliest days of absorption plants one of the problems confronting the designer as well as the operator has been the temperature rise of the absorption oil as it passes through the absorber. The effect of temperature rise is to give a higher temperature to the rich oil leaving the absorber and the higher this rich oil temperature the greater must be the oil circulation to accomplish the desired absorption. The selectivity of absorption becomes greater with a decrease in rich oil temperature, thereby enabling the absorption of the desired constituents without as large an absorption of "fixed gases."

A number of methods have been used in the past to reduce this high oil-outlet temperature; the two most commonly used being refrigeration either of the gas or oil or both, or by the use of either internal or external intercoolers. Either of these two methods will increase the absorption efficiency if properly applied.

The second major problem has been the useful disposal of the plant vent gases. These vapors are normally at a pressure which would require the installation of recompressors to put them back into the main absorber residue. Some of these vent gases are often required as fuel but the provision must be made for the disposal of a substantial excess.

Temperature Rise in Absorber

The rise in temperature of the oil as it passes through the absorber is caused by the heat of absorption of the constituents which are absorbed from the gas which is being treated. The heat comes directly from the latent heat and heat of solution of the dissolved constituents as they enter the absorber in the vapor phase and leave the absorber in the rich oil in the liquid phase. If it were possible to obtain an absorption medium that would only absorb the constituents that are desired in the final product, the quantity of hydrocarbons absorbed would be greatly reduced and, therefore, the temperature rise in the oil passing through the absorber would be reduced. This reduction in rich oil temperature would then allow a reduction in oil rate without effecting the absorption of the desirable salable constituents. If it were possible to absorb only salable constituents, the main absorber residue would contain all the remainder of the plant inlet gas and there would be no plant vent gases for which disposal must be provided. These results are approached by the use of "presaturation."

The process has been developed with the idea in mind to solve these two problems easily and economically. It consists of contacting in an absorber all the lean oil which is to pass through the main absorber with all of the plant vent gases, from which all the desired salable fractions have been removed. This contacting of the oil and vent gases is accomplished at as high a pressure as possible without the expenditure of excess horsepower. In most plants all the vent vapors can be comingled at a high enough pressure so that no compression is required. With the high gas oil so obtained it is often possible to absorb all the butane, all the propane and considerable quantities of methane and ethane contained in the vent gases. The presaturated oil, heated by the latent heat and heat of solution of these constituents, is then cooled and pumped into the main absorbers.

First consider the temperature rise of the absorption oil as it passes through the main absorber. As stated above, it is desirable to keep the temperature of the rich oil leaving the main absorber as low as possible. For a given oil circulation and a given gas volume to be treated, the quantity of desirable fractions absorbed or the absorption efficiency is increased by reducing the rich-oil temperature.

Rich-Oil Components

The rich-oil components from the bottom of the main absorber can be divided into three general classes: First, the lean oil itself; second, the portion of the dissolved hydrocarbons which is to be used in the final salable product; and third, the remainder of the dissolved hydrocarbons which is termed here as plant vent gases or vapors. In most absorption plants the methane, ethane and propane which have been absorbed in the oil are in substantial equilibrium at the base of the main absorber with the incoming gas. Therefore, the rich oil leaving the absorber contains all of these constituents that can be held in solution at absorber operating conditions. If the oil which is fed to the main absorber already contains all or a portion of these constituents, only the difference between the amount of each constituent in the rich oil at the bottom of the absorber and that in the entering oil can be absorbed. If all the propane contained in the vent gases were absorbed in the presaturator, then no propane could be absorbed in the main absorber because that amount contained in the vent gases would exactly equal that in the rich oil at the bottom of the main absorber. It follows that this reduced absorption of light constituents will reduce the temperature rise through the absorber.

Another way in which the reduction of temperature rise can be approached is that the total heat of absorption ordinarily experienced in the main absorber is decreased by the amount of the heat of absorption in the presaturator. Assuming the total amount of absorbed constituents in the rich oil at the bottom of the main absorber remains constant, then a portion of the absorption takes place in the presaturator and the heat of this absorption is removed in a cooler before the oil is passed into the top of the main absorber. It follows that the heat of absorption in the main absorber must be reduced causing a reduction in the rich oil temperature at the main absorber base.

Consider the second of the two problems; that of providing for useful disposal of the plant vent gases. As previously stated, the lean oil is contacted with all of the plant vent gases and because of the high gas-oil ratio obtained in this absorber or presaturator, it is usually possible to absorb all the propane and butane and a large portion of the methane and ethane from these gases. As these constituents are in the oil as it enters the main absorber and as the total quantity of dissolved hydrocarbons in the rich oil at the bottom of the main absorber is a function of equilibrium conditions at this point, only a small amount of methane and ethane, no propane, and the amount of constituents heavier than propane which are desired in the final produce are absorbed. In a general statement, the amount of the main absorber residue is increased by the exact amount of the vapors which are absorbed in the presaturator. By passing the vent gases through this absorber, the quantity of such gases is decreased greatly. In some cases of actual plant operation, using a presaturator, the total residue from the tower has been insufficient for the necessary plant fuel supply.

As the constituents absorbed in the presaturator are primarily propane and excess butane, the return of these fractions to the main absorber residue will raise the heating value of the residue gas above that of this gas without the presaturation process. The process then makes available for pipe-line sale the high heating value fractions of the vent gases. The low heating value residue gases can then be used as plant fuel. This residue gas is usually low enough in heating value to be used as internal-combustion engine fuel.

If it were possible to contact the vent gases in the process at sufficient pressure, it is conceivable that all the vent gas would be absorbed and therefore only the salable fractions desired in the final product would be absorbed in the main absorber. This condition might be possible where the main absorbers are run at a pressure which is below both the still and stabilizer pressures.

Lean-Oil Vapor Pressure

In the past, a low-pressure absorption oil to the main absorber was desired because excessively high vapor pressure lean oil was caused by improper stripping and, therefore, the lean oil would contain some constituents which were desired in the final product. In the process oil having a very high vapor pressure is actually introduced into the top of the main absorber. However, this high vapor pressure is not caused by any constituents which it is desired to be absorbed in the main absorber. Therefore, this vapor pressure is not detrimental to the absorption of salable fractions. Actually, if the lean oil is not completely stripped and contains some fractions which it is desirable to recover, the addition of the lighter fractions in the presaturator will reduce the partial vapor pressure of the desirable fractions which have been left in the lean oil and this tends to prevent their loss from the main absorber. This can readily be seen by an analysis of the problem by the use of Raoult's law. The actual number of mols of oil to the main absorber has been increased by the amount of the constituents absorbed in the presaturator. As the partial vapor pressure of any constituent in the oil is equal to its mol fraction times its vapor pressure in the pure state, and in particular as the total mols of the desirable fractions are not

*Presented before July meeting of California Natural Gasoline Association under author's title of "Presaturation" (Process Patent 2181633).

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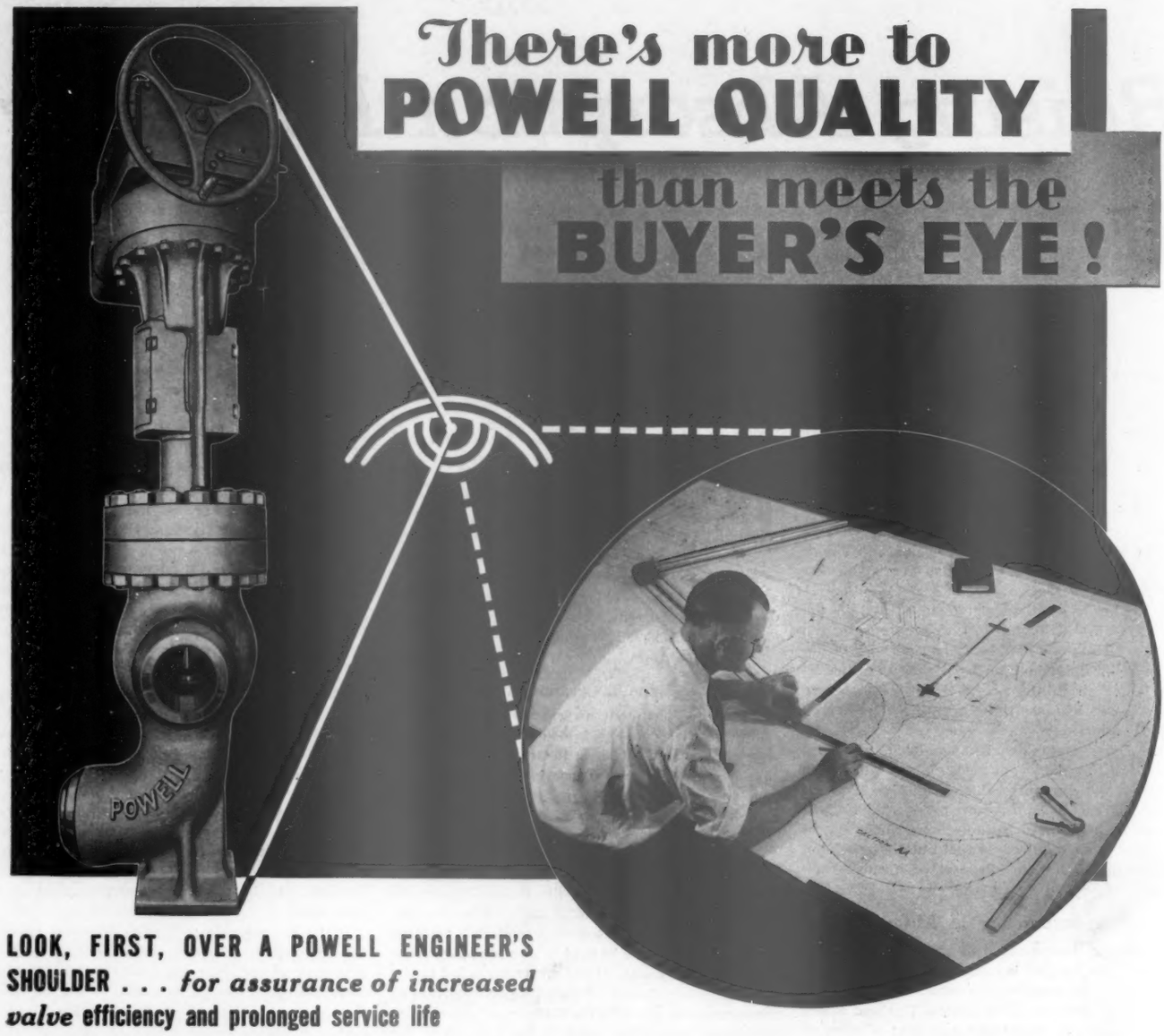

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increased, while the total mols of the liquid are increased, the mol fraction of the desirable constituents is decreased and therefore its partial pressure is decreased.

In plants where all the vent gases are not absorbed in the presaturator, the gas not absorbed tends to have a stripping action in removing water from the lean oil. This reduction in lean-oil water content tends to eliminate any tendency for emulsion to be formed in the main absorber. Also, the fact that the volume of gas absorbed in the main absorbers is reduced, the tendency to condense water in the main absorber due to shrinkage of gas volume is decreased.

The net overall result of the process can be summed up as follows:

First, a high extraction efficiency can be obtained in the main absorber, enabling a greater quantity of gas to be treated or allowing a reduction in the absorption oil circulation. Second, the volume of the residue gas from the main absorber is materially increased and the volume of the plant vent gases is reduced. Third, the high heating value fractions of the plant vent gases are made available for pipe-line sale. Fourth, the lean oil water content is reduced and the tendency for water to condense from the treated gas in the main absorber lessened.

Questions and Answers

Oil Versus Water Drilling

Has The Oil and Gas Journal published any articles on the comparative operating costs on land versus water drilling?—I. P., Oklahoma City.

The following is a bibliography on recent articles on this subject in The Oil and Gas Journal:

Difficulties in Offshore Drilling in Sabine Pass Prospect, by Neil Williams, January 11, 1940, Page 14.

Maritime and Land Operations Contrasted in Chalkley Field, by Neil Williams, March 7, 1940, Page 40.

Marine Drilling on Gulf Coast, by Neil Williams, April 25, 1940, Page 74.

Ten Holes Drilled From One Marine Location, April 25, 1940, Page 105.

The cost of various marine and swamp operations varies widely, depending on their distance from a suitable base of operations. In some cases the marine drilling site may be within a short distance of the shore while in other cases it may be 25 miles from a suitable point of embarkation. In the former case the towing and transportation charges would be small while in the latter this would amount to a considerable item.

There are two methods being used at the present time for marine drilling. Where the drilling site is located near the shore, a causeway may be built and the equipment moved to the location by truck. The alternate to this method is to use a barge for the location of the drilling rig. One company favors the barge in offshore and swamp drilling, a dredge being used to make a suitable canal for towing the barge to the drilling site.

Some idea of costs may be gained from the fact that on a recent offshore job the cost of the causeway and the working platform around the derrick was $38,000. In one Gulf Coast field the cost of building the causeway is $13 per running foot. This includes driving the piling, laying the runners and flooring with boards. The platform around the derrick is additional.

The original investment required for barge drilling is high but where a field is being developed it can be amortized over a period of time and the per-well investment reduced. A set of barges for drilling a deep well costs from $85,000 to $100,000 and in addition there is a royalty fee on each well which must be paid as the submergible feature is covered by a patent. Barges have an advantage in that the drilling machinery stays rigged up and a move from location to location requires a very short time.

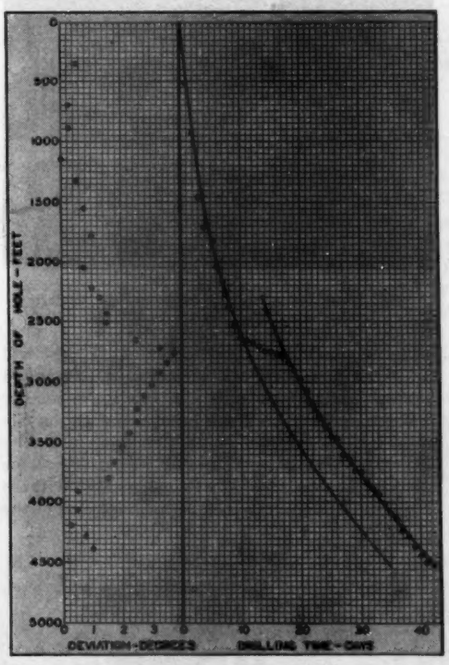
From the foregoing figures it is easily seen that the costs for water drilling are much higher than they are for land drilling although the costs in the latter case differ widely from locality to locality and from season to season. Under favorable conditions it may cost as little as $15,000 additional to drill an offshore location but on the other hand the additional costs may amount to as much as $100,000.

Suggested FIELD PRACTICES . . No. 8

Much Drilling Time Is Lost by Crooked Holes

By T. P. SANDERS

MOST companies place a definite limitation on hole deviation from the vertical, allowing a maximum of 2°, 3° or 4°. If the deviation should exceed this limit, the hole is plugged back to a suitable point so that a new hole can be drilled. If the deviation closely approaches the limit without exceeding it, the hole is usually brought back to vertical by removing most of the weight from the bit so that it will assume a vertical course as drilling continues. Although the loss of time is more apparent in the first instance, it is considerable in either case, and may be far more than is usually recognized.



Method of plotting drilling time against hole deviation. Charts of this kind made for a large number of wells showed that an average of 8 days' drilling time was lost in bringing holes back to vertical each time the deviation exceeded 3.5°

Records accumulated for a large group of wells showed that the average time lost due to reduced footage while "holding up on the bit" amounted to 6 days for each instance in which the deviation limit was approached. The accompanying chart shows the manner in which the data for each well were plotted. It indicates quite clearly that when the hole deviates more than 3½° it can only be brought back to vertical with great difficulty. It is assumed that this is caused by the unbalanced drill collar, which tends to lean against the lower side of the hole, thereby misdirecting the bit. This being the case, most of the weight of the drill collars must be held up while straightening the hole.

Much of the difficulty due to crooked holes is brought about by making the deviation tests too far off bottom. In the accompanying chart the test which showed a deviation of 2½° was taken when the bottom of the hole was 3¾° off vertical. Likewise, the test at 2,500 ft. showing 1½° deviation probably was taken at a time when the bottom of the hole was over 2° off. Thus deviation may not be detected until it has become excessive. In order to obviate this difficulty the following steps are recommended:

1. If a float valve is used in the drill stem, it should be placed immediately above the drill collar so that the test instrument can be run as close to the bit as possible.

2. The deviation tests should be made immediately after adding a new joint so that the bit will be practically on bottom at the time of test.

3. Tests should be made frequently, probably every 50 to 200 ft., depending on conditions.

4. Instruments should be of unquestionable accuracy so that a change in deviation of 0.5° will indicate whether more or less weight should be applied to the bit.

The measures used for promoting straight holes are well known to all drillers, and include regulated weight on the bit, concentration of weight at the bottom of drill stem through use of heavy drill collars, use of straight pipe joints, use of drill collars in which the fluid passages have been accurately centered, and use of rapid rotating speeds.

In late years it has been proved that the straight hole is quickest and cheapest to drill. In some cases where companies have insisted on a deviation limit of 2° it has ultimately resulted in decreased drilling time, since this limitation does not permit the hole to get crooked enough so that excessive time will be required to bring it back to vertical.

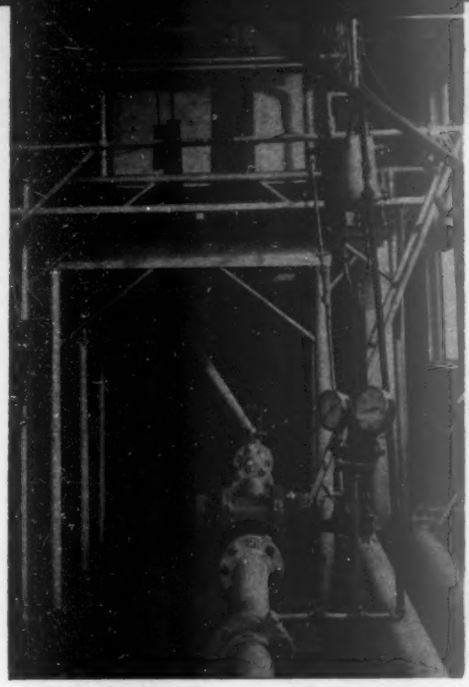


Fig. 1—Volumeter testing equipment at the University of Oklahoma. Meter readings are taken "on the run" with the small electrically operated camera on the bracket at the extreme right.

Volumetric-Type Fluid Meters

By EDGAR E. AMBROSIUS and HOWARD S. BEAN

Assoc. Professor of Mech. Engineering
University of Oklahoma

Senior Physicist
National Bureau of Standards*

SOON after its formation in 1916 the special committee on fluid meters made plans for a study of volumetric-type meters. Before any experimental work could be arranged the committee was obliged to lay these plans aside in order to give its full attention to two other matters. The first was the assembling and publishing of information then available on fluid meters as was done in Editions 1 and 2 of Part 1. The second was an extensive study of head meters. Part of this study, namely that on square-edged orifices, was conducted in cooperation with a similar committee of the American Gas Association. Another part, on flow nozzles, was arranged by this committee and carried out with assistance from several laboratories. This study of flow nozzles is nearly completed, and a report on it is being prepared.

In returning to the study of volumeters the committee has decided to give attention first to those meters which are designed more or less specifically for use in the oil industry. One reason for this is that the use of meters in all phases of the oil industry has been steadily increasing for several years; a second reason is that there has been more or less discussion in the legislatures of several states about laws to require the use of meters in all gathering lines and pipe lines. The committee believed that a thorough, unbiased study of these meters should develop much information of real value at this time to the meter manufacturers, the meter users, and the general public through those agencies which are charged with the supervision of the measurement of petroleum products in retail and wholesale trade.

The facilities immediately available made it convenient to start with meters particularly suited for use in oil-well lines, in transmission lines, and in refineries. Next, a study will be made of meters used in connection with retail sales of such products as fuel oil, gasoline, and liquefied-petroleum gases. Later the committee will probably give attention to volumeters designed more specifically for other fluids such as water, chemicals, and gases.

The first step in the present program is the careful testing of a group of representative meters for use in 2 and 4-in. lines. These tests will be made at the University of Oklahoma and with the equipment there available it will be possible to vary the rate of flow through any meter from about 5 to 125 per cent of its rated capacity, with a possible maximum rate of about 450 gal. per minute. A record of the pressure drop across the meter will, of course, be a part of the test data. These tests will be made with refined oil which may be considered stable and free from wax and paraffin. At least two oils with different viscosity indices will be used, and by heating, the viscosities of the oils can be varied over a moderately wide range, and thus information will be obtained on viscosity and temperature effects.

As soon as several meters have been completely tested in this manner in the laboratory they will be placed in actual field service at a convenient location in the Oklahoma City field. At regular intervals these meters will be returned to the laboratory to be retested while other meters are installed in their places. In this way data will be obtained on the rate of wear. In addition there will be a field proving tank and the gagings of the field tanks with which the meters may be compared.

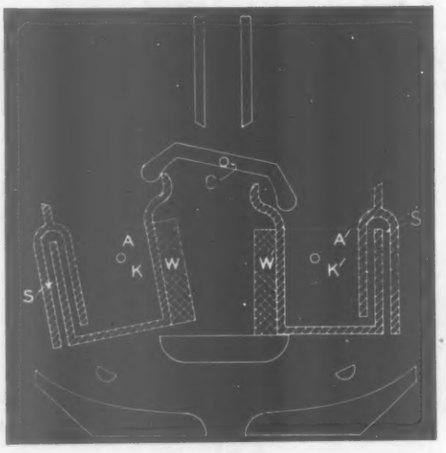


Fig. 2—A tilting trap type of weight meter.

Another part of the program is a study of the effects of differences in installations and operating conditions. This will involve a study of settling chambers, separators, and the like. As yet, no detailed plans for this part of the program have been made, other than to arrange that it will be carried on under the immediate supervision of the Bureau of Mines' station at Bartlesville, Okla.

Throughout the course of this program the committee expects to publish reports of its work as the data are accumulated. In order that the same name or descriptive terminology may be used throughout these reports it will be well to give here an explanation of the operating features which will form the basis of the names used. The authors wish to have it understood that these names are suggested primarily for the committee's convenience, and that no manufacturer need feel obliged to use these names in describing his meter.

In the fourth edition of Part 1 of the committee's "Report on Fluid Meters, Their Theory and Application," there is given a general classification of fluid meters. Under that classification all of the meters to be used in the present study are included in the following three classes: weighing, volumetric, and velocity. The first two classes are true "quantity meters," the distinctive feature of these meters being that *all* of the fluid to be metered passes through the primary element in successive and more or less completely isolated quantities. The velocity meters belong to the rate-meter division which includes all meters in which the fluid flows through the primary element in a continuous stream, and the registration of these meters is derived from some effect of the moving stream. The meters included in each of these three classes may be subdivided further according to the type of primary element used, as named and described below. The reason for including weighing and velocity meters in this research on volumeters without some qualification in the title is that generally the index used with these meters is essentially the same as that of the volumetric meters

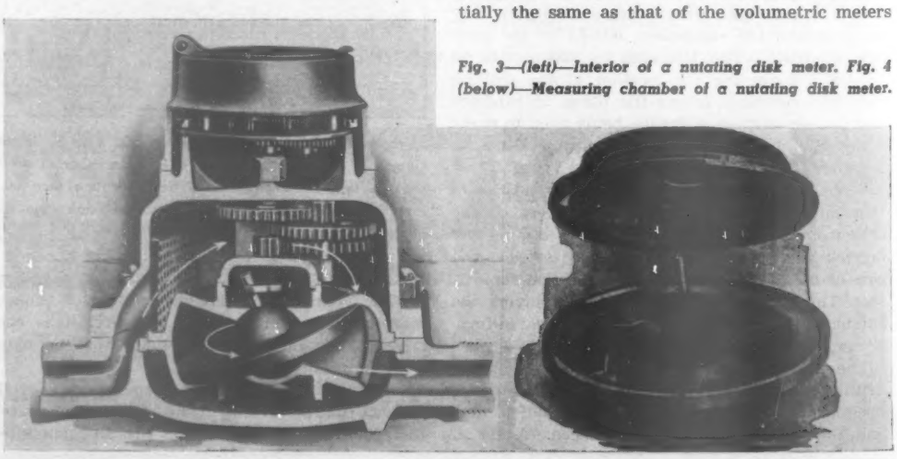


Fig. 3—(left)—Interior of a nutating disk meter. Fig. 4 (below)—Measuring chamber of a nutating disk meter.

*Author's title, "Volumeter Research of the Fluid-Meters Committee of the A.S.M.E.," of which Mr. Bean is a member.

and is arranged to indicate in terms of volume (or weight) units.

The following descriptions and illustrations of the several "type" names of meters are not intended to represent the product of any particular meter manufacturer, but are given to aid the reader in forming a mental picture of the distinctive operating features which the name is intended to convey. Furthermore, the authors are not concerned here with the materials of which a meter may be constructed but only with the metering principles utilized, for, obviously, while the materials suitable in a meter for oils would probably not be suitable for an acid, yet the same metering principle can be used for both liquids.

Weighing—Tilting-Trap Type

Under weighing meters the only type that need be considered is the "tilting trap," diagrammatically illustrated by Figure 2. The two tanks *A* and *A'* are supported on the pivots (knife edges) *K* and *K'* and counterbalanced by the weights *W* and *W'*. The liquid to be metered runs through the diverting trough into one of the tanks (as shown here, *A'*). When the weight of the liquid in the tank becomes sufficient to tip the tank on its pivot to the position in which *A* is shown, liquid begins to discharge through the siphon, *S'*, and the diverting trough is tipped about its axis *C*, thus diverting the incoming liquid into the other tank, *A*, which meanwhile has returned to an upright position. When a portion of the liquid has drained out of tank *A'* the counterweight causes the tank to return to its original position, but the siphon will continue to flow until the tank is emptied to the level of the edge of the siphon tube. As the second tank is filled it tilts, shifting the diverting trough back to the position shown in the diagram.

There is a variation of this design in which the two tanks are mounted on a common shaft in such a way that the tilting of one tank brings the other into position for filling. In this design the siphon may be eliminated.

Volumetric

Meters of the volumetric class may be subdivided into the following types:

Nutating disk.
Reciprocating piston (or simply piston).
Planetary piston.
Gear or lobed impeller.
Sliding or rotating vanes.

Nutating-disk meter.—Fig. 3 is a cutaway view illustrating the interior of a nutating-disk meter. The top and bottom surfaces of the measuring chamber are conical extending inward, and the chamber side wall is spherical. The movable element is the disk mounted on the central ball from the top of which a pole or shaft, perpendicular to the disk, extends through the top of the measuring chamber. This shaft is held in an inclined position by a cam or roller so that the disk is in contact with the bottom of the measuring chamber along a radial element on one side of the ball, and in contact with the top of the measuring chamber in the same radial plane on the other side of the ball. To prevent the disk from rotating there is a radial slot in the disk which engages a radial partition as shown in Fig. 4. The inlet and outlet ports are in the side wall of the case, adjacent to, and on

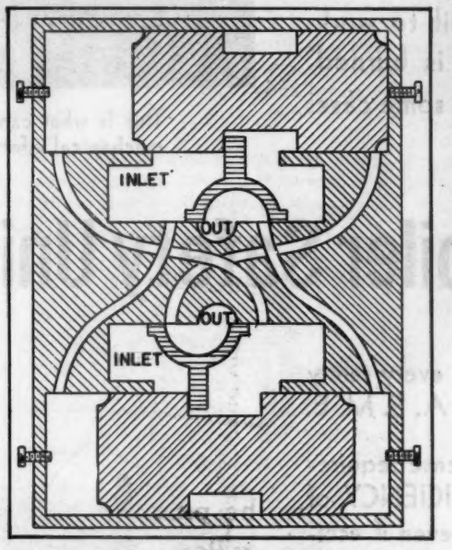


Fig. 5—Cross section through a reciprocating piston meter.

opposite sides of the radial partition. Liquid enters the measuring chamber alternately above and then below the disk and must pass entirely around the conical measuring chamber to the outlet port. This movement of the liquid around the measuring chamber first above and then below the disk produces a nutating motion of the disk (nodding in a circular path without revolving about its own axis). As the disk nutates the top of the shaft moves in a circular path, and by engaging with a crank on a shaft from the index, operates the meter index.

Between different makes of nutating-disk meters there will be minor variations in design. For example, instead of a flat disk as shown in Figs. 3 and 4, some meters have a coned disk. In such a case the top and bottom will not have the same cone angle.

Another feature of these meters is that the relation between the measuring-chamber displacement

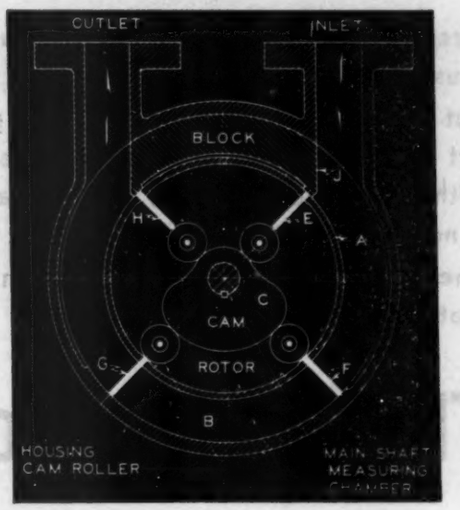


Fig. 9—Section through a sliding vane meter

and the meter registration can be adjusted by changing one or more gears in the index gear train, or by a small adjustable bypass[1] around the measuring chamber.

Piston meters, reciprocating type.—Meters of this type are essentially reciprocating piston engines, the important difference being that whereas the engine is designed to take as much energy as possible from the fluid passing through it, the meter extracts only enough to overcome the resistance offered by the pistons, valves and index. Fig. 5 shows a cross-section through a meter of this type. The operating cycle of such a meter can readily be followed from the figure.

Numerous variations will be found in the designs of reciprocating piston meters. For example, the valves may be built integral with the piston. In another case, only one cylinder and piston is used with an auxiliary piston to assist in operating the valve. Again, there may be a number of cylinders

[1]Many fluid-metering authorities consider the use of a bypass as very objectionable because its passage area is so susceptible to change by the lodgment of foreign particles carried by the fluid. None of the meters being used in the committee's program is equipped with a bypass.

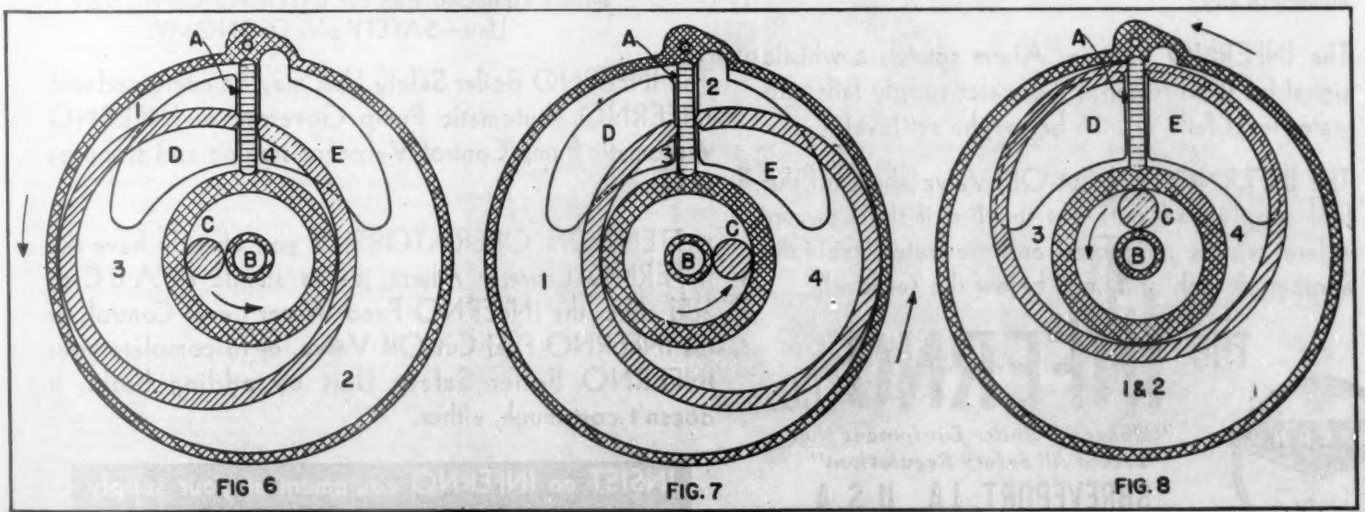


Fig. 6, 7, 8—Cross sections through a planetary piston meter showing successive positions of the piston throughout a cycle

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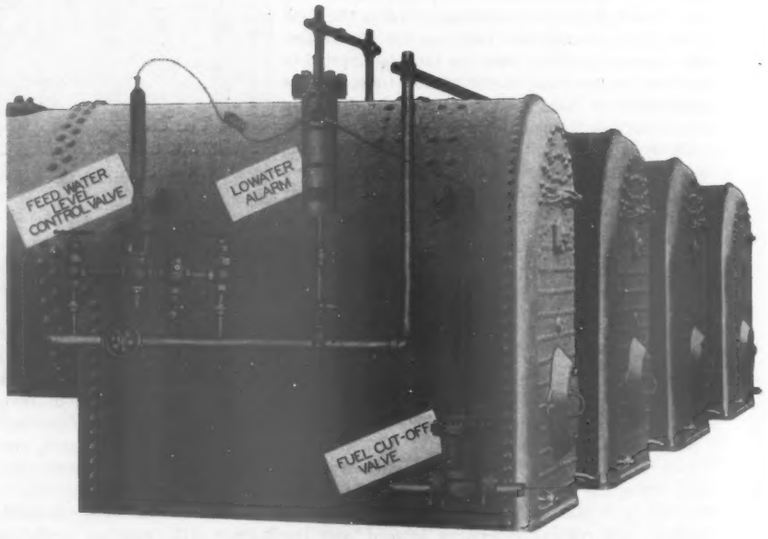

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placed radially and the pistons connected through connecting rods to a common crankshaft, as in radial-cylinder aircraft engines. A meter of this kind will probably have a single rotary valve driven from the crankshaft. Another variation is

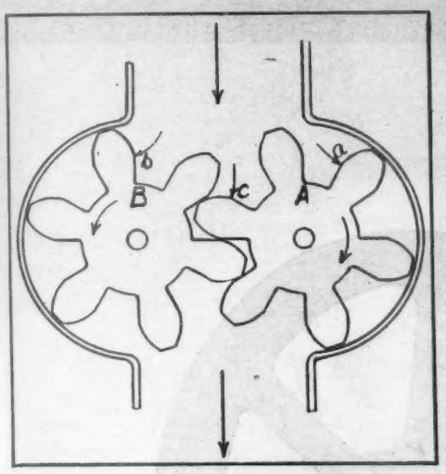

Fig. 10—A gear-type meter

that in which a number of parallel pistons are located in a circle and their pistons are connected to a wobble plate which has a motion similar to that of the disk of a nutating-disk meter.

In reciprocating piston meters, sealing rings of metal, composition, or leather may be used to reduce, if not practically eliminate, any slippage past the piston. Another method is to use a longer piston with several small circumferential grooves to reduce slippage by capillary sealing.

In some designs adjustment of the capacity per cycle may be made by regulating the stroke of one or more of the pistons, as by the adjustable stops in the cylinder heads shown in Fig. 5. In other designs this method of adjustment cannot be used, and if there is to be any adjustment of the calibration it may be necessary to change the gears in the index gear train or to use a bypass.

Planetary[2] piston meters.—In these meters the piston and cylinder are the same length (except for a small operating clearance), but the diameter of the piston is much less than that of the cylinder. Moreover, the piston is hollow and the cylinder chamber is annular, as shown in Figs. 6 to 8. Between the outer and inner walls of the cylinder there is a radial partition, *A*, and in the side wall of the piston there is a slot only wide enough to fit the partition without binding. It is this partition and slot that prevent rotation of the piston. Mounted in the center of one cylinder head is the post, *B*, and in the head of the piston is the post, *C*. The outer and inner diameters of the hollow piston, the outer and inner diameters of the annular cylinder, and the inner diameter of the inner cylinder wall and the diameters of posts *B* and *C* are all so related that the outer surface of the piston is always in contact with the inner surface of the outer cylinder wall and the inner surface of the piston is always in contact with the outer surface of the inner cylinder wall. Post *C* is designed to have only easy sliding clearance between post *B* and the inner surface of the inner cylinder wall.

[2]The appropriateness of this name is based on the similarity between the motion of the meter piston and the motion of the middle gear in an epicyclic gear train to which the name "planetary" is commonly applied. The names "rotary" and "oscillating" have been used, but the piston does not rotate, i.e. turn on its own axis, nor does it as a whole revolve about some other axis. "Oscillating" is applicable by the definition (Standard Dictionary) "varying between fixed limits which are reached alternately," but the writers' objection to this name is that the term usually conveys the idea of a fixed center about which the swinging or vibrating takes place.

The motion of the piston and its action as a valve as well as a piston are more easily explained by reference to the figures. The irregular areas, *D* and *E*, represent the inlet and outlet ports, respectively, and are located in the cylinder head containing post *B*, and opposite the closed end of the piston. In Fig. 6 fluid is entering chamber 1 from *D* while fluid in chamber 2 is leaving through *E*. The fluid in chambers 3 and 4 is sealed off from both the inlet and outlet ports. Succeeding stages in a cycle of the meter operation are shown by Figs. 7 and 8.

The sealing of the measuring chambers depends on sliding contact between the ends of the piston and cylinder and on a combination of rolling and sliding-line contact between the cylinder and piston side walls. After being assembled there is no way to change the amount of fluid metered per cycle. This means that if there is to be any adjustment for incorrect registration it may be necessary to change the index gearing or to use a bypass.

Sliding or rotating-vane meters.—A design of a sliding-vane type of meter is illustrated in Fig. 9. A rotor, *A*, is fitted with four sliding vanes, *E*, *F*,

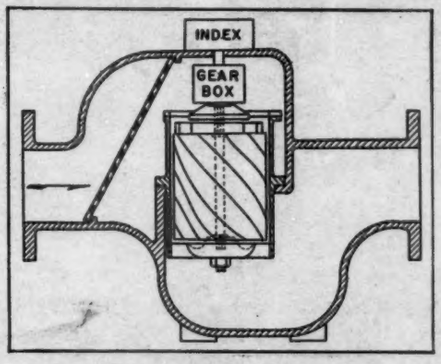

Fig. 11—Helical type of velocity meter

G, and *H*, which are moved radially inward and outward by the action of the cam rollers on the stationary cam, *C*. The fluid entering the meter exerts a force on vane *F* which is nearly counterbalanced by the force exerted on vane *G* by the fluid leaving the meter. The difference between these forces, when there is a flow through the meter, will cause the rotor to rotate. With each quarter turn of the rotor there will be measured out the volume of fluid required to fill the measuring chamber, *B*. Direct passage of fluid from the inlet to outlet is prevented by the block, *J*.

In a rotating-vane meter the sliding vanes of the sliding-vane type are replaced by semicylindrical vanes mounted on longitudinal axes in the periphery of the rotor, and the cam and cam rollers are replaced by gears.

While it would be possible to use sliding contact between the vanes, case, and rotor for sealing the measuring chamber this would greatly increase the frictional resistance and result in a large pressure loss through the meter. It is, therefore, more practical to provide very small clearances between these three parts and to depend upon capillary sealing for the tightness of the measuring chamber. If, in addition, low-friction type bearings are used, the overall pressure loss of these meters can be kept relatively low. Adjustment of the meter registration can be accomplished by the methods previously mentioned.

Gear or lobed impeller meters.—Fig. 10 illustrates the general features of gear or lobed-type impeller meters, which are essentially pumps of this type in reverse action. The measuring chambers are the spaces between the gear teeth and the outside case. To explain the operation of these meters, let *f* indicate the difference between the inlet and outlet pressures. This differential pressure acts against the tooth surfaces *a*, *b*, and *c*. Due to the meshing of the gear teeth, the area acted upon at *c* is approximately half the sum of the areas at *a* and *b*. Therefore, the total torque produced by the pressure acting on *a* and *b* will overbalance that produced by the pressure on *c*, thereby causing the gears to rotate in the directions shown by the arrows.

The number of teeth on each rotor may be reduced until there remain only two teeth or lobes on each rotor. When this is done it is necessary that the rotor shafts be extended through one or both end walls of the case, and equal tooth-spur gears be mounted on them so as to maintain the rotors in the necessary relation to each other.

(Continued on Page 64)

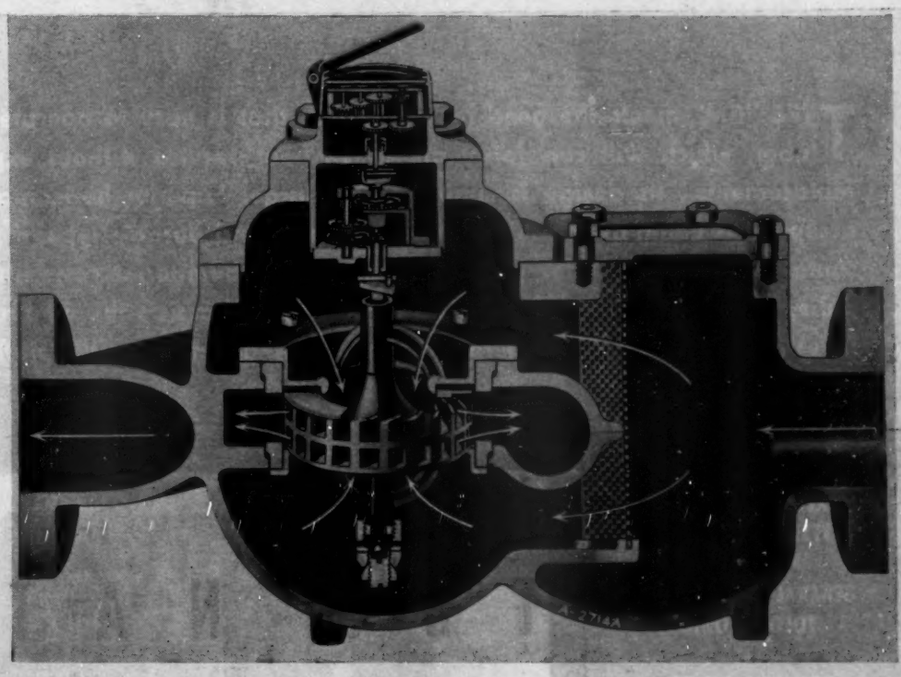

Fig. 12—Turbine type of velocity meter

THE NEW Superior

TYPE "CM" meets the need for an engine that is easy to operate, does not require extra labor, which will run for years in 24-hour service without expensive shutdowns and replacements. Its design is similar to the larger Superior horizontals, which are generally accepted as being the most economical, reliable and durable type of pumping engine. A self-contained power unit for outdoor mounting on pumper, it costs little to install. Our price policy based on intensive manufacturing methods, assists the oil producer to hold down his investment, while cutting operating expenses and increasing his profits with Type "CM."

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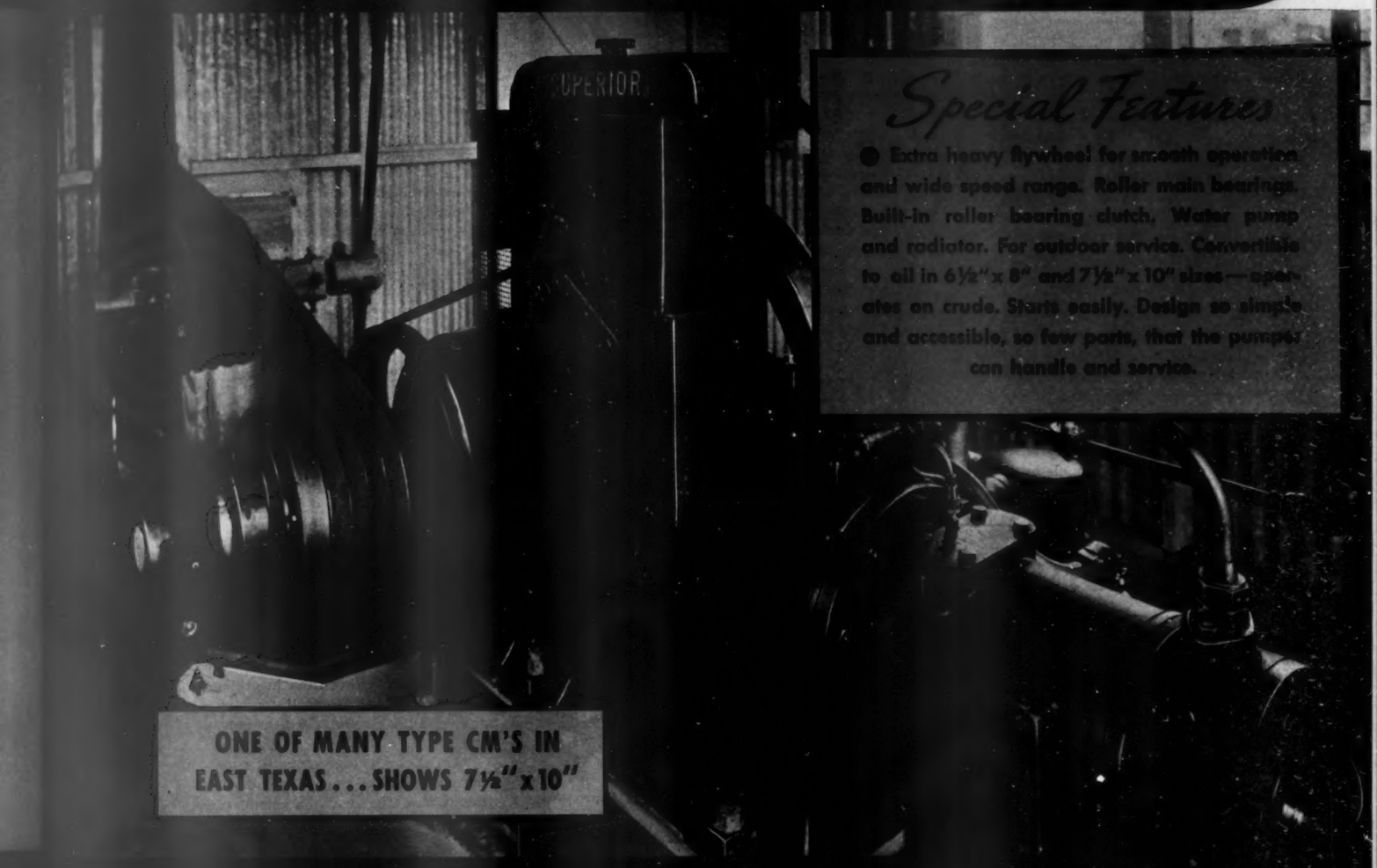
THE NATIONAL

SMALL HORIZONTAL PUMPING ENGINES

TYPE "CM" 6½"x8"...7½"x10" AND 8½"x10"



ONE OF MANY TYPE CM'S IN EAST TEXAS... SHOWS 7½"x10"

Special Features

● Extra heavy flywheel for smooth operation and wide speed range. Roller main bearings. Built-in roller bearing clutch. Water pump and radiator. For outdoor service. Convertible to oil in 6½"x8" and 7½"x10" sizes—operates on crude. Starts easily. Design so simple and accessible, so few parts, that the pumper can handle and service.

RATINGS OF TYPE "CM" GAS ENGINES			
BORE X STROKE	6½" x 8"	7½" x 10"	8½" x 10"
Rated Horsepower	15 at 500 RPM	22½ at 450 RPM	30 at 450 RPM
Rated Horsepower	9 at 300 RPM	15 at 300 RPM	20 at 300 RPM
Usual Range of Pumping Speeds	300 to 600 RPM	250 to 500 RPM	250 to 500 RPM

Above H. P.'s carried continuously. Maximum H. P. curves on request.
Larger sizes of Type "CM" are available up to 13¼" x 16".

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By careful machining very small clearances may be maintained between the rotors and case and between the two rotors, and thus have very effective capillary sealing of the measuring chambers. Also, by the use of suitable bearings the overall pressure loss can be made very low.

Regardless of the number of teeth used on a rotor, the cross-sectional area of the measuring chamber will be more or less irregular and while it may be possible to calculate this area, and hence the displacement per cycle, it probably will be more satisfactory to determine the relation between meter displacement and the index indication by a calibration test. Indeed, the index on some meters of this type is a simple revolution counter, and the quantity of fluid metered is determined by multiplying the number of revolutions by the displacement per revolution; a procedure which obviates any provision for adjustment.

Velocity Meters

In this research we are concerned with only those types of velocity meters which are commercially made for use in closed channels, namely, helical meters and turbine meters. The most important feature differentiating these meters from the types previously described is that the fluid passes through the primary section of the meter in a continuous stream. The action of this fluid stream against the rotative element in the primary section operates the meter index, and since the intensity of this action will depend upon the velocity and density of the fluid, it will vary from time to time. Therefore, it is not practical to make any provision for adjusting the meter, but, when necessary, to depend upon a calibration of the meter.

Helical meter.—The helical meter derives its name from the helical vanes on its rotor, as shown in Fig. 11. So far as meter type designation is concerned, the axis of the rotor could be colinear with that of the pipe line, instead of at right angles as here shown. Also it is not essential that the rotor fit closely within the casing, although when it does the meter will be more nearly accurate at all rates of flow, and particularly at low rates, because it will be more responsive to the action of small flows.

Turbine meters.—The principles of design and operation of turbine meters are similar to those of reaction water turbines in the radial or mixed flow type. Fig. 12 shows a cut-away view of a turbine meter of the radial outward-flow type, with the path of the fluid through the rotor and guide vanes indicated by arrows. The rotation of the rotor is produced by the reaction of the fluid upon the rotor vanes.

Acknowledgment

The authors wish to express their appreciation of the assistance extended to them by several meter manufacturers who provided some of the illustrations.

Questions and Answers

Could you give me the name of the company manufacturing Cal-Seal and some information on its physical properties and its possible application in cementing surface casing in a deep core hole which is drilled for geologic information only? We would like to reduce the down time caused by waiting on cement to set around the surface casing.—L. B. M.

The product about which you are inquiring is made by the United States Gypsum Co. and data as to its composition, manner of use and cost can be obtained directly from them. Their main office is located at 300 Adams Street, Chicago, Ill., although they have a sales office for Cal-Seal, with E. C. Hamilton in charge, located at 1302 Santa Fe Building, Dallas, Tex.

Paul F. Lewis of Du Pont de Nemours Co. included a discussion of Cal-Seal in his recent paper on oil-well shooting. The material for the discussion was gathered from the manufacturer, a service company which places the material in wells and an oil company. The following is quoted from Mr. Lewis' paper:

"Super Cal-Seal is a high-strength special gypsum cement, especially designed for use in various oil-well cementing operations. The standard stock material possesses a setting time of approximately 120 minutes. Material setting in 60 minutes may be obtained on special order. The product is used and applied in a manner similar to that with portland cement.

"To obtain best results, the material should be mixed with least amount of water to give a workable consistency. For normal use, 35 parts by weight of water to 100 parts by weight of dry Super Cal-Seal is satisfactory. This corresponds to a mixed fluid weight of 15.1 lb. per gal. Weight with 30 parts of water is 15.3 lb. per gal. and with 40 parts water is 14.9 lb. per gal. It is suggested that the consistency be checked in the field by determining wet density on mixed material until familiarity with the product is obtained.

"As stated above, the standard Super Cal-Seal No. 120 is designed to set in 120 minutes, or 2 hours, under normal conditions of use. Means of accelerating or retarding setting time in the field will be discussed in fuller detail in the following paragraphs.

"If mixed at the recommended water ratio of 35 parts of water per 100 parts of Super Cal-Seal, strength of the set material will be approximately 3,000 lb. per sq. in. 30 minutes after setting is complete. Super Cal-Seal varies decidedly from portland cement in time required to reach maximum strength. With Super Cal-Seal, maximum strength is reached very shortly after completion of setting time and no further strength is obtained upon standing under conditions such as will normally be encountered in oil wells. Dry strength of Super Cal-Seal, mixed as recommended will range from 8,000 to 9,000 lb. per sq. in. However, under normal conditions of use, strength of this order will not be reached as the presence of a small amount of free moisture in the product is sufficient to materially reduce the dry strength.

"Upon setting, Super Cal-Seal expands, about 0.25 per cent of lineal expansion being normally obtained. This expansion prevents the formation of shrinkage cracks within the set material.

"The setting time of the material is stabilized as far as possible against the effects of agitation, varying consistency, contamination with other materials, etc. However, conditions will be encountered in the field which do affect the setting time of the product and these should be guarded against.

"Time of mixing: In general, increasing violence of agitation will slightly accelerate setting time. Normal variation of about 20 minutes in set may be expected from very light to very heavy agitation.

"Setting time lengthens as consistency, or water ratio is increased. Under normal water ratios, which will be employed in the field, say from 30 to 40 parts of water per 100 parts of Super Cal-Seal, variation of setting due to this cause will be negligible.

"Increasing temperature retards setting time. It is suggested that whenever possible it be mixed with water at a temperature under 100° F.

"Contamination: Setting time of Super Cal-Seal may be either accelerated or retarded by contamination with other materials. Mixing water containing salt, soluble sulfates, bicarbonates, etc., in appreciable amounts will definitely accelerate the setting time of the product. Some organic impurities and soluble sulfides may retard the setting time. It is recommended that whenever possible, clear water be employed for mixing. If other water is used a preliminary setting time should be determined on a small amount of the material.

"Set Super Cal-Seal accelerates setting time of the product to some extent.

"Portland cement acts to accelerate setting time. Amount of acceleration with addition of 1 to 2 per cent is not pronounced. However, not over 5 per cent of portland cement should be mixed with Super Cal-Seal.

"Sodium silicate is a very powerful set accelerator. Sodium hexametaphosphate, employed as a flocculent in some muds, is a very powerful retarder. Precautions should be observed to prevent intimate mixing of Super Cal-Seal with either of these materials.

"*Factors affecting strength:* Effect of consistency: As with portland cement, higher strength is obtained with low water ratio.

"Thorough mixing: Increased strength is obtained with thorough and uniform mixing.

"Maximum strength is obtained with final placement of the mixed material at least 30 to 45 minutes before setting time.

"Effort of contamination: Marked strength reductions are obtained by contamination with appreciable amounts of any of the materials above which affect setting time in either direction.

"Storage: The material may be stored under any conditions suitable for the storage of portland cement.

"An oil-producing company which investigated the properties of Super Cal-Seal about 1 year ago found that the desirable quantity of water for mixing was:

	Water		Slurry weight,
	Lb.	Gal.	lb. per gal.
100 lb. Super Cal-Seal	35	4.2	15.8

"With this mixture the setting time in minutes was:

	35 lb. water		45 lb. water	
	Initial	Final	Initial	Final
No agitation	65	67	...	120
Slight agitation, mechanical	85	88	120	125
Slight agitation, air	85	88	90	95
10 per cent salt water and air agitation	*70	†98	*95	‡120

*Part. †Complete. ‡Half.

COMPRESSIVE AND TENSILE STRENGTH SUPER CAL-SEAL (HOURS AFTER MIX)

	Time	Compress	Tensile
Normal mix	4	3,812	350
Plus 10 per cent salt water and air agitation	3.5	2,687	290
Plus 10 per cent crude oil and air agitation	3.7	3,887	360

"Conclusions from these tests:

1. Exact setting time not achieved.
2. Setting time higher than theoretical.
3. Agitation delayed setting time.
4. Addition of salt water and agitation delayed setting time greatly.
5. Except under condition No. 4 set was complete in a matter of minutes once started.
6. Set always delayed by excess of water.
7. With 10 per cent water and agitation by air, set was incomplete in a period of 12 hours.
8. With air agitation only, material set hard in 95 minutes."

QUESTIONS ON TECHNOLOGY

By W. L. NELSON, TECHNICAL EDITOR

Determining Efficiency of Laboratory Fractionating Columns

I would appreciate information on the distillation efficiency of Snyder fractionating columns in terms of theoretical plates. How does the Snyder column compare with some of the more recent distilling columns as to efficiency?—H. E.

No direct comparisons of the Snyder and other columns appears to be available in the recent literature. Hill and Ferris discuss this column and its efficiency in "Laboratory Fractionating Columns" (Ind. Eng. Chem., 19, 379, Mar. 1927), and find it to be the most efficient column of those which they examined. However, Dr. M. R. Fenske of Pennsylvania State College, who is an authority on laboratory fractionation and laboratory equipment, feels that the efficiency of a Snyder column is not greater than about 60 per cent. Thus, a six-bulb column would be equivalent to three or four theoretically perfect plates and a 30-bulb column would be equivalent to about 18 plates. You must bear in mind, however, that the efficiency varies greatly with the feed rate, and to some extent with the reflux ratio that is being employed.

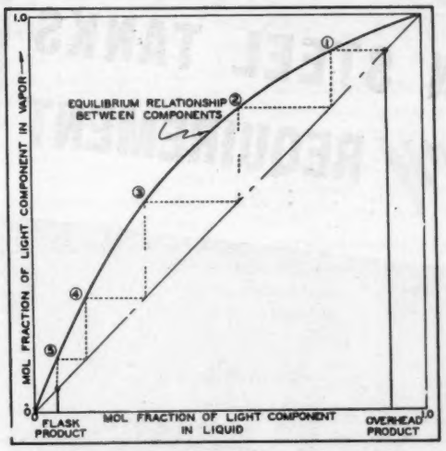
Dr. Fenske has discussed laboratory fractionation in Volume 2 of Science of Petroleum, Oxford University Press (1938) Page 1638, in a thorough manner and also with Tongberg and Quiggle in Ind. Eng. Chem. Vol. 26, 1213 (1934). He states in connection with various columns made by shaping glass tubing into special shapes, that ". . . experience has shown that in general a more efficient column results by using a length of uniform tubing and proper packing materials."

The complexity of the problem of evaluating the efficiency of columns makes it advisable to establish the efficiency by means of a laboratory experiment under conditions and by using a feedstock that is similar to the one for which the column will be used. This may be accomplished by operating the column at total reflux. Some of the mixtures that have been used for this purpose are:

Carbon tetrachloride-benzene	Ind. Eng. Chem. 24, 408 (1932)
Acetic acid-water	Ind. Eng. Chem. 14, 476 (1922)
Alcohol-water	Ind. Eng. Chem. 14, 476 (1922)
Benzene-toluene	Ind. Eng. Chem. 26, 1213 (1934)
n-Heptane-toluene	Ind. Eng. Chem. 26, 1213 (1934)

The compositions of such mixtures can be determined with ease by means of the density or refractive index.

The mixture is heated to boiling but all of the material that tends to be produced is put back into the top of the column as reflux. This can be accomplished by means of circulating water through a tube in the top of the column. The rate of heating is adjusted so that the column does not flood and at a rate that is reasonable with respect to the vapor-volume that is handled. The vapor-volume should be similar in magnitude to the conditions under which the column will be employed in actual laboratory work. After maintaining the total refluxing for a short time, a small amount of overhead product should be collected at a slow rate. The composition of the overhead material and the material in the flask (including drain-back from the column) is determined. These compositions are then plotted on a McCabe-Thiele diagram, Ind. Eng. Chem. 17, 605 (1925) (or for general discussion Petroleum Refinery Engineering, by Nelson, McGraw-Hill Book Co., Inc., New York, 1936, pp. 244 and 282), as indicated on this page. At total reflux it is only necessary to mark off the number of steps (or plates) between the 45° line and the equilibrium line, as shown on the figure on this page, to determine the number of plates. It is customary to subtract one from the theoretical plates so determined because the flask itself acts as about one theoretical plate and hence the fractionating column has not produced the entire separation.



Example of diagram for determining the number of theoretical plates at total (or infinite) reflux. Five theoretical plates are indicated

Simplified Flow Diagrams:

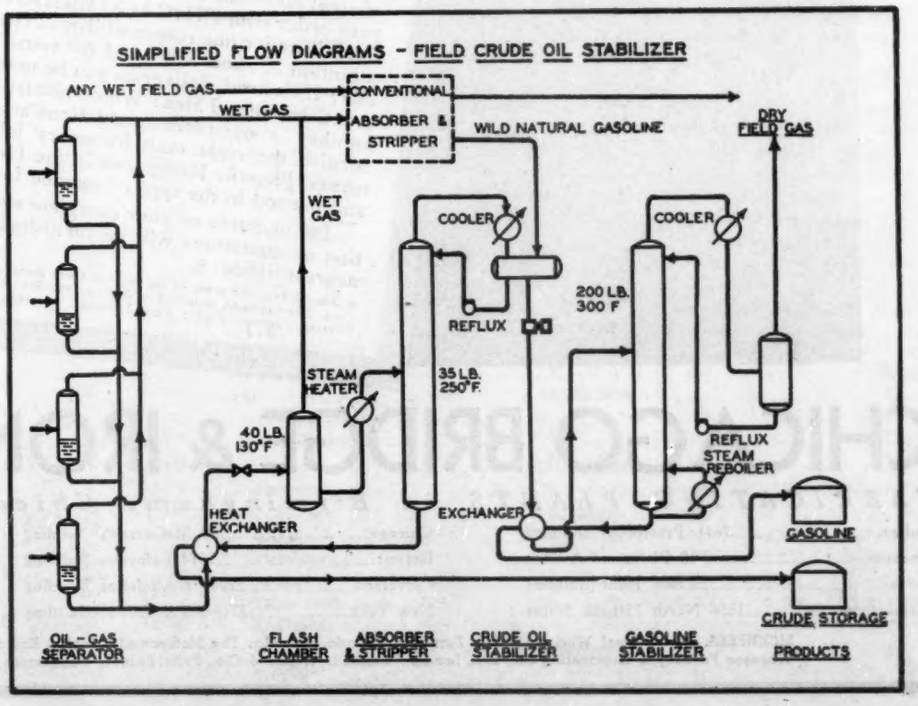
Crude-Oil Stabilizer

Will you please publish a diagram of a system for eliminating the losses in the storage and transportation of crude oil?—T. F. C.

On this page is shown a flow diagram of a crude-oil stabilizer system patterned in general after the system published by E. O. Bennett and C. R. Williams, The Oil and Gas Journal, Page 58, May 20, 1937, and L. E. Smith, National Petroleum News, Page 30, September 23, 1936.

Normal Mid-Continent crude oils contain 0.2-1.3 per cent of propane, and 3.5-6.5 per cent of butanes and more than half of the total amount of these two hydrocarbons can easily be retained as a stable product. If the crude oil is not stabilized, nearly all of the propane and butane may be lost. Crude oils that are produced under extreme pressure are even richer in volatile hydrocarbons and even greater losses occur. Now that butane is being utilized as a charging stock for polymerization plants, it is becoming increasingly important to stabilize the crude oil. Such a process is probably not economically feasible unless fuel costs are very low.

The separators shown on the diagram may be situated at each well, or in larger fields, may be set on the field lines at a convenient central location. The temperatures (and pressures) that are shown are only indicative of the general operating conditions and they will vary widely for different oils. The gasoline stabilizer may be a part of an existing conventional natural-gasoline plant (shown in box), but since much larger quantities of gasoline are produced when crude oil is stabilized, it is usually necessary to build a new gasoline stabilizer.



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WHEN you are planning new facilities for storing petroleum products or water, greater efficiency and economy can often be effected if the entire job is obtained from one source . . . *providing that source is able to meet your exact requirements.*

Our organization is equipped to design, fabricate and install all types of steel tanks for every requirement. There are many reasons for placing your order with CHICAGO BRIDGE & IRON COMPANY: *First:* All work is under one responsibility . . . each unit receives the same individual attention . . . and will be of the same high quality and workmanship. *Second:* If desired, deliveries can be made to fit in most advantageously with erection plans. *Third:* We do not try to "push" any one design more than another . . . our recommendations are unbiased . . . we are in a position to furnish the *right* tank for every job, depending on individual requirements. *Fourth:* Every unit in the Horton line has been thoroughly tested and proved in the type of service for which it is designed.

Let us quote on your *complete* storage requirements. Further information or quotations will be furnished without obligation. Please write our nearest office.

• *Shown here are some of the Horton tanks installed at the Corpus Christi plant of the Coastal Recycling Corp. They include, from top to bottom: 600-bbl. elevated water tank; Two 20-000-bbl. gasoline tanks with Wiggins Pontoon Roofs; Two 2,000-bbl. kerosene tanks; and a 2,000-bbl. flat-bottom water tank.*

CHICAGO BRIDGE & IRON COMPANY

FABRICATING PLANTS in Birmingham, Chicago, and Greenville, Pa.

Dallas	1641 Praetorian Building	Chicago	2128 McCormick Building	Philadelphia	1615-1700 Walnut Street Building
Houston	918 Richmond Avenue	Detroit	1514 Lafayette Building	Boston	1517 Consolidated Gas Building
Tulsa	1606 Hunt Building	Cleveland	2204 Rockefeller Building	San Francisco	1054 Rialto Building
Birmingham	1536 North Fiftieth Street	New York	3347-165 Broadway Building	Los Angeles	1423 Wm. Fox Building

LICENSEES: Horton Steel Works, Limited, Fort Erie, Ontario, Canada; The Motherwell Bridge & Engineering Co., Ltd., Motherwell, Scotland; The Wheatco Foundry & Engineering Co., Ltd., London, England; Worms & Cie., Paris, France; Compagnia Tecnica Industrie Petroli, S.A.I., Rome, Italy.

FIELD OPERATIONS

Summarizing the Week's Developments

ILLINOIS—Montgomery County jumped into the limelight with two oil completions and a third well which was reported making 75 bbl. per day on the pump. Bond County was on the verge of receiving its first oil field as the National Petroleum Co. installed a pump on its No. 1 Spindler. Gulf Refining Co., 4 Buhl in the Irvington pool was making 300 bbl. per day from the Devonian lime. There were 67 completions and 84 new operations reported during the week. Production again declined.

WEST TEXAS—The discovery of a new and deeper oil-producing level in the Pecos Valley low-gravity field of Pecos County centered the attention in the southern Permian basin area of West Texas while the staking of wildcats in Dawson and Yoakum counties held the interest of the week in the northern basin.

WEST CENTRAL TEXAS—A new oil-producing horizon, believed to be the Mississippi lime, was opened in the Stribling field of Stephens County last week. New wildcats also held attention.

NORTH TEXAS—The discovery of a new, deeper, and the seventh pay level for the Hull-Silk field of Archer County, together with the discovery of a new field in northwestern Archer County and a shallow field in Wilbarger County, held the attention of the week in this district.

EASTERN TEXAS—Camp County was definitely assured a new deep Pettit lime oil field when H. S. Moss, 1 Venters started flowing, naturally, last Thursday at the rate of about 84 bbl. daily.

SOUTHEAST NEW MEXICO—The greatest number of wildcat locations in 1 week for several months was recorded in the Southeast New Mexico district. Eddy County was given three new exploratory tests while Lea County received one.

OKLAHOMA—Oklahoma shows evidence of a strong comeback with five new pools definitely proven and two more discovery wells showing oil on test. The Cumberland area has its second and third producers in the Bromide sand.

MICHIGAN—The Yenior discovery in Arenac County is continuing to show encouraging results as it flowed 65 bbl. an hour, partially pinched in, from the Dundee pay during the past week.

LOUISIANA GULF COAST—Phillips' discovery well at Little Chenier had an increase in salt water and will be killed preparatory to another test. The Paradis field recorded a substantial extension and a deeper sand has been found at West Cote Blanche.

CALIFORNIA—Superior Oil Co.'s test on the northeastern edge of the Rio Bravo structure is confirming seismograph predictions that the well would run low. The Thorley test, which proved up a new sand in the Rosecrans area, has proved somewhat disappointing as pressures are subnormal.

Completions in All Fields

(Week Ended August 3, 1940)

	Oil	Gas	Dry	Total	1940 total comp. to date	1939 total comp. to date
N. Y., Pa., and W. Va.	91	2	7	100	2,399	1,858
Ohio	15	7	10	32	712	546
Indiana	10	0	6	16	246	137
Kentucky	7	2	2	11	303	405
Illinois	42	0	21	63	2,213	2,083
Michigan	9	1	13	23	747	803
Kansas	26	1	6	33	1,110	738
Oklahoma	25	5	21	51	1,146	1,129
Texas:						
North Central Texas	36	1	24	61	1,853	1,450
West Texas	34	0	2	36	1,269	1,124
Texas Panhandle	12	1	0	13	367	240
East Central Texas	8	1	3	12	305	449
East Texas Border	0	0	0	0	46	45
Gulf Coast Texas	18	0	4	22	775	811
Southwest Texas	33	1	18	52	1,349	1,398
Total Texas	141	4	51	196	5,964	5,517
North Louisiana	5	1	5	11	358	310
Gulf Coast Louisiana	16	0	4	20	597	344
Total Louisiana	21	1	9	31	955	654
Arkansas	1	1	2	4	120	154
Montana	6	0	1	7	115	89
Wyoming	1	0	1	2	90	63
Colorado	0	0	1	1	14	7
New Mexico	21	0	4	25	409	350
California	13	0	2	15	629	543
Total United States	429	24	157	610	17,172	15,086
Total previous week	453	41	159	653		
Week ended Aug. 5, 1939	379	38	133	550		

Outstanding Fields—Highlights

(Week Ended August 3, 1940)

FIELD—	Active operations	Oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS					
K.M.A.	52	4	1,686	1,429	40,069
Wasson-Bennett	64	11	12,305	892	24,050
Ector County	52	9	7,768	2,215	36,498
Hull-Silk	32	12	7,741	327	8,801
Jones County	19	1	398	628	6,200
East Texas	20	7	306	25,973	374,848
OKLAHOMA					
Oklahoma City	10	3	955	825	109,200
Cement	13	4	495	322	6,600
NEW MEXICO					
Lea County	55	17	3,016	2,528	88,990
Eddy County	45	4	436	601	17,000
KANSAS					
Bornholdt	14	3	3,782	99	2,208
Burnett	11	3	3,194	107	5,383
Silica	10	0	0	536	13,650
Trapp	15	3	5,240	562	13,000
LA-ARK-TEX					
Cotton Valley, La.	3	0	0	162	13,590
Olla, La.	8	2	264	22	2,405
MICHIGAN					
Allegan County	23	2	280	506	7,816
Kent County	10	5	416	334	10,947
CALIFORNIA					
Montebello	13	0	0	345	19,150
ILLINOIS					
Salem	114	13	4,789	2,193	182,253
Centralia	16	0	0	701	47,982
Louden	37	7	970	1,564	74,632
Other basin fields	246	22	6,346	2,329	92,879
Old fields	....	....	.....	.....	10,799
MISSISSIPPI					
Tinsley	7	1	432	67	10,803

By
STAFF CORRESPONDENT

New Pool Is Found on West Rim in Montgomery County

TWO near-completions of discovery wells held the interest of Illinois operators during the past week along with development around recent discoveries. Material was being moved in to complete the National Petroleum, 1 Spindler, prospective pool opener in Bond County, while Gulf Refining Co. continued to test its Devonian well in the Irvington pool, No. 4 Buhl, which was reported making 300 bbl. daily.

Montgomery County got its first taste of oil since abandonment of the Litchfield pool when two wildcat wells were completed for 28 bbl. and 5 bbl.; the wells are approximately 8½ miles apart. It was reported last week that one operator was preparing to drill 16 locations in 31-11n-5w. Production is from the Litchfield sand. (The Litchfield pool comprised 100 acres with 17 wells and had a total recovery of 22,000 bbl. of 21.7° oil from the Litchfield sand.)

Completion of a flowing well in the Lancaster pool caused lease owners in the area to take notice. It was the Big Chief, 2 Seibert, SE SW SW 26-2s-8e, which swabbed and flowed 500 bbl. after acid treating McClosky pay at 2,650-53 ft. and 2,674-83 ft. Approximately a mile to the south of the Big Chief well, a 285-bbl. producer was completed in the McClosky. A new well in White County, between the Storms and Iron pool, may be an extension of either, or the link between the two fields.

Efforts to prove good Trenton production in the Centralia field were being balked by water trouble as Allen Borton's well on the Storer lease encountered difficulties shortly beyond the Devonian lime. If successful, it will be the second well in the Trenton in the field. The Trenton in Centralia was looking much better as Henry Ames, partner in the Ames-Hicks, 2 Brown, the Trenton discovery well, reported the well was flowing by heads while it was being deepened. He claimed the well had 80 ft. of saturated pay. The well made an initial of 100 bbl. daily but no tests have been run on it recently.

Wildcatting generally was on the increase throughout the state and several important tests were nearing depths where it will be possible to determine their worth. There were 17 new wildcats staked during the week.

New operations exceeded completions by 17 new tests, there being 67 wells finaled during the week and 84 new ones started; in addition there were 5 stratigraphic tests completed during the week. The new work and its location was an indication of the strenuous effort being made to bolster the falling production of the state.

Carter Oil Co. started work on eight new tests in the Louden field, while Texas Co. and Ohio Oil Co. were starting four and two tests, respectively in the St. James pool. In Richland County Pure Oil Co. started four tests while independents started one test and in Jasper County Pure started aonther pair. Pure also had four new tests in Wayne County and independents accounted for three more. Clinton County had four tests starting, all of them in the Hoffman pool. Wabash County reported work being started on three new tests. White County fields received considerable attention with eight new wells being started, and Edwards County got two new tests.

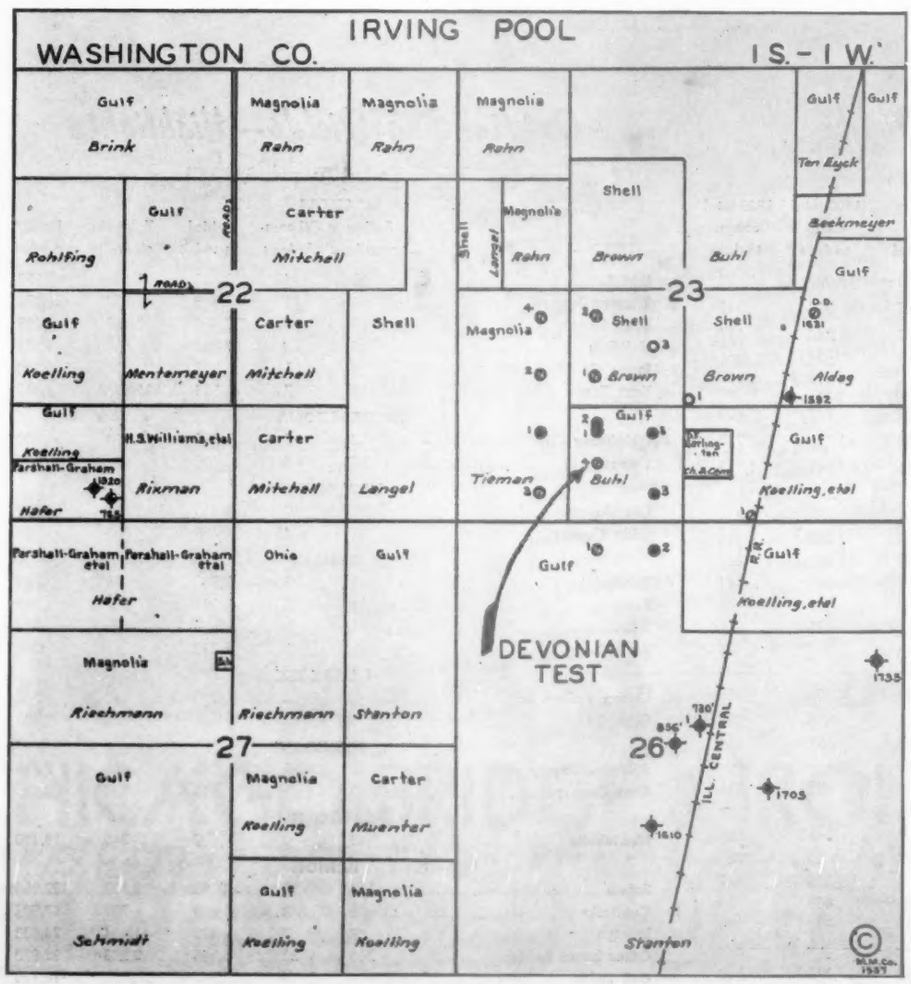
In the Salem field in Marion County, Texas Co. reported starting work on 19 new tests, only 1 of which was scheduled for the Devonian. Seventeen of the tests were scheduled to bottom in the McClosky-Salem formation and the other in the Benoist-Aux Vases. Independents announced one test to the Benoist, McClosky-Salem, and the Devonian.

There were 24 wells reported being worked over in the state with substantial increases in production resulting. Some were deepened while others were simply cleaned out, shot, or acidized. Nineteen of the recompletions were in the Salem field.

Of the 67 completions, 42 were oil wells having an initial production of 12,105 bbl., 21 were dry, 2 were gas input wells, and 2 were salt-water disposal wells. Marion County led the number of successful completions with 13 wells for an initial of 4,789 bbl. Wayne County was second with eight wells for an initial of 2,423 bbl., while Fayette County was third with eight completions for 1,096 bbl. initial. Clinton County reported six wells for an initial of 560 bbl. Wabash County had seven wells for an initial of 1,623 bbl. White County had three wells for 905 bbl. initial. Richland County had three wells for 309 bbl. initial. Edwards County had a successful completion for 240 bbl. Hamilton County had a completion for 117 bbl. Montgomery County had two wells for 33 bbl. initial.

Coles, Clark, Cumberland, Franklin, Edwards, Clay, White, and Wabash counties each reported a dry hole. Clinton County had three failures. Bond, Jackson, Brown, Fayette, and Marion counties each had two failures.

Production for the week dropped 9,870 bbl. over the past week. Salem produced 182,253 bbl., a drop of 10,282 bbl.; Centralia produced 47,982 bbl., a drop of 1,739 bbl.; Louden produced 74,632 bbl., an increase of 280 bbl.; and other basin fields produced 92,879 bbl., an increase of 977 bbl. Old fields produced 10,799 bbl.



Another Devonian pool is in prospect for Illinois as the Gulf Refining, 4 Buhl reported making 300 bbl. daily from that horizon. Other wells in the pool are producing from Benoist. The No. 4 Buhl is not yet a completion

NEW WILDCAT OPERATIONS

DeKalb County

J. E. Milburn, 1 Eraas.....NE NE SE 22-38n-3e
Rigging up rotary.

Logan County

Bay Oil, 1 G. M. Lake .....NE NE SW 11-20n-2w
Spudded with cable tools.

Edgar County

Downey & Cain, 1 Stark.....NW NW NE 18-12n-13w
Spudded with cable tools.

Macoupin County

Adams & Laegers, 1 Cole .....E½ E½ NW 2-10n-6w
Sand 540-55 ft., saturation, 6⅝-in. casing 545 ft., drilled plug, hole full of water, T.D. 550 ft. in Pottsville sand.

Paul Miller, 1 Crabtree ..... SW SE SE 1-10n-6w
Cable tools, set 75 ft. of 10-in. casing.

Lee & Cover, 1 Banning .....NE SW SW 12-10n-6w
Spudded with cable tools.

O. L. Smith, 1 Klein .....SW NW 8-9n-7w
Drilling at 360 ft. with rotary.

Jasper County

Johnson O. & R. 1 Ed Mendenhall SW SW SE 17-8n-10e
Old T.D. 2,062 ft., drilling toward McClosky.

Bond County

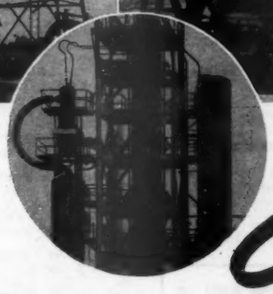
Arrow Drilling, 1 Snow.....NE NW NE 33-7n-2w
Drilling with rotary at 115 ft.

Madison County

Alch & Carroll, 1 Wrinkel.....SE NE NW 33-5n-6w
Moving in rotary.

Crawford County

Bell Brothers, 1 George Hersey NE SE NE 1-5n-13w
Devonian test with rotary, Ohio farmout.



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PETROLEUM ELECTRIC POWER ASSOCIATION

Clinton County

Jones, Bechtel & Burgess, 1 Hester ..... NE SW NE 35-3n-1w
Cable tools, set 8-in. at 1,130 ft.

Wayne County

Jack Chevigny, 1 Kate Cook.....S½ SW NE 25-2n-6e
Rotary test to McClosky, drilling 684 ft.

Hamilton County

Texas, 1 N. Adams.....N½ NE NW 8-4s-7e
Rotary location.

Perry County

Stanolind, 1 W. R. Kimsey.....SW NW SE 4-5s-1w
Rotary, set 222 ft. of 10-in. casing.
Carl Robinson, 1 Gruner.....NE NW SE 14-5s-3w
Rigging up rotary.

Franklin County

Manley Oil, 1 Downer.....SW SW SW 26-7s-4e
Rotary location.

ILLINOIS COMPLETIONS

Coles County

Tex Harvey, 1 P. Erwin.....SW SW SW 36-13n-9e
Dry, Pennsylvanian sand with saturation 652-90 ft., water at 675 ft.

Clark County

General Pet., 1 Ingersoll.....NE NW NE 32-11n-14w
Dry, Devonian 1,262 ft., water 1,314 ft., T.D. 1,325 ft.

Montgomery County

Randall & Witt, 1 Street.....SW SW NE 31-11n-5w
Pumped 28 bbl. and some water, Pottsville sand 611 ft., T.D. 624½ ft., tight pay.
Henderson Bros., 1 Ostermeier NW NW NW 30-10n-4w
Pumped 5 bbl. oil and small amount of water, T.D. 642 ft.

Cumberland County

Ginther, 1 Kemper.....SW NW SE 22-10n-10e
Dry, T.D. 710 ft.

Bond County

T. L. Smith etl al, 1 Duncan ..... E½ NE SE 8-6n-2w
Dry, T.D. 330 ft.
W. F. Lacy et al, 1 Cartmell .... NW NE SE 29-5n-2w
Dry, Devonian 2,461 ft., T.D. 2,547 ft.

Clinton County

F. Coester et al, 1 John Rohr.....NE NW SE 9-2n-3w
Dry, Cypress 1,026 ft., showed water.
Bert Fields, 1 Zachary ..... SW SW NE 1-1n-3w
Dry, Devonian 2,553 ft., T.D. 2,657 ft.
H. F. Williams, 1 Bach Bros. ..NW NW NW 21-1n-2w
Dry, Devonian 2,695 ft., T.D. 2,816 ft.
P. Mosebach, 3 Schlermann.....NW SE SE 5-1n-3w
Pumped 130 bbl., acid 2,000 gal., Devonian pay 2,431-44 ft.

Hoffman Pool

L. L. Benoist, 1 Knolhoff.....NE NE NW 11-1n-2w
Pumped 50 bbl. oil and some water, Benoist 1,315-21 ft.
L. L. Benoist, 2 Knolhoff.....SW NE NW 11-1n-2w
Pumped 80 bbl. oil and some water, shot 3 qt., Bethel 1,319-23 ft.
L. L. Benoist, 3 Ed Knolhoff...SW NE NW 11-1n-2w
Pumped 80 bbl. oil and 15 bbl. water, shot 5 qt., Bethel 1,319-21 ft.
D. Duncan, 2 H. Knolhoff.....SE NW NW 11-1n-2w
Pumped 105 bbl., shot 3 qt., Bethel 1,320-27 ft.
D. Duncan, 3 H. Knolhoff.....NE NW NW 11-1n-2w
Pumped 115 bbl., shot 3 qt., Bethel 1,318-26 ft.

Marion County—Salem Field

Baldwin, 9 Holmes.....NE SW NE 33-2n-2e
Flowed 375 bbl., acid 3,000 gal., Devonian pay 3,516-38 ft.
Zephyr Drilling, 7 Lankford.....SW NE SE 33-2n-2e
Pumped 20 bbl. oil and 10 bbl. water, Devonian 3,574 ft., plugged back 1,926 ft., perforated 48 shots 1,911-19 ft., T.D. 3,591 ft.
Lee & Roberts, 1 M. Young heirs SE NE SE 17-2n-2e
Flowed 160 bbl. in 17 hours, acid 500 gal., Devonian pay 3,536-45 ft., T.D. 3,555 ft.
Magnolia, 114 J. H. Young.....NW SE NW 28-2n-2e
Flowed 210 bbl., acid 4,000 gal., Devonian pay 3,431-87 ft.
John Pugh, 6 Toulme.....SE SW SW 30-2n-2e
Pumped 75 bbl. oil and 10 bbl. water, acid 3,000 gal., McClosky 2,031-41 ft.
Texas, 18 W. Stroup.....SW NE NW 31-2n-2e
Gas-input well, Benoist 1,762 ft., Aux Vases 1,817 ft., T.D. 1,834 ft.
Texas, 19 W. Stroup.....NE NW NW 31-2n-2e
Flowed 450 bbl., acid 5,000 gal., Devonian pay 3,460-85 ft., T.D. 3,495 ft.
Texas, 21 W. Stroup.....NW SE NW 31-2n-2e
Flowed 595 bbl., acid 5,000 gal., Devonian 3,317 ft., T.D. 3,415 ft.
Texas, 20 E. Tate.....NE NW SW 31-2n-2e
Flowed 489 bbl., acid 5,000 gal., Devonian pay 3,460-72 ft., T.D. 3,475 ft.
Texas, 6 W. Ray.....NW SW SE 21-2n-2e
Dry, Devonian 3,464 ft., 50-qt. shot 3,509-34 ft., showed water, T.D. 3,553 ft.
Texas, 7 Ray.....SW SW SE 21-2n-2e
Dry, Devonian 3,533 ft., showed water, plugged back 2,220 ft., T.D. 3,547 ft., did not pull casing.
Texas, 65 City of Centralia.....NE SW SW 4-1n-2e
Flowed 205 bbl., shot 25 qt., Benoist 1,822-90 ft.
Texas, 17 E. Farthing.....NW SE NW 4-1n-2e
Gas input, shot 20 qt., Benoist 1,814 ft., Renard 1,851 ft.
Texas, 24 E. Tate.....SE SW NW 5-1n-2e
Flowed 369 bbl., acid 5,000 gal., Devonian pay 3,380-93 ft., T.D. 3,400 ft.
Texas, 11 C. Bundy.....E½ SW NE 6-1n-2e
Flowed 846 bbl., acid 5,000 gal., Devonian pay 3,373-3,402 ft., T.D. 3,421 ft.
Texas, 18 J. Canull ..... E½ SE NE 6-1n-2e
Flowed 827 bbl., acid 5,000 gal., Devonian pay 3,354-75 ft., T.D. 3,381 ft.
Tide Water, 7 Miller ..... NE NE 18-1n-2e
Flowed 168 bbl., acid 1,000 gal., McClosky 2,063-87 ft., T.D. 2,089 ft.

Brown County

B. F. Kagy, 1 Ripley. NE NW SW 33-1n-2w of 4 p. m.
Dry, T.D. 175 ft.
J. G. Buell, 1 H. R. Doan NE NW SE 32-2s-4w of 4 p.m.
Dry, Trenton 635 ft., T.D. 650 ft.

Edwards County

Jarvis Bros., 1 Greene.....N½ NE SE 24-2s-10e
Flowed 240 bbl. through ⅝-in. choke, acid 3,000 gal., McClosky 3,124-27 ft.
Herschbach, 1 Perkins ..... NE SW SW 2-3s-10e
Dry, McClosky 3,262 ft., T.D. 3,275 ft.

Washington County

Hyatt, 1 Smith.....SW NE SE 23-2s-1w
Dry, Fredonia 1,839 ft., T.D. 1,861 ft.

Fayette County—Louden Field

Carter, 1 Phillips.....SW NW NW 1-8n-3e
Pumped 144 bbl., shot 20 qt., Cypress sand 1,532-55 ft.
Carter, 1 Alsop..... SE SW SE 3-8n-3e
Dry, Cypress sand 1,500-54 ft., T.D. 1,607 ft.
Carter, 1 Drees-Miller.....SW NW NE 12-8n-3e
Pumped 54 bbl., shot 30 qt., Cypress 1,452-76 ft.
Carter, 2 C. Tipsword.....SE SW NE 13-8n-3e
Pumped 144 bbl., shot 10 qt., Cypress sand 1,474-88 ft.
Carter, 1 Nellie Evans.....SE SE SW 29-8n-3e
Pumped 244 bbl. oil and 104 bbl. water, 10, 40, and 15-qt. shots, Cypress 1,422-55 ft., Paint Creek 1,486-1,509 ft., Bethel 1,519-31 ft.
Carter, 1 K. Owen ..... SW NE SW 29-8n-3e
Salt-water disposal well, T.D. 1,260 ft.
Carter, 6 Wilbur Hawkins..... SE SE SW 17-7n-3e
Pumped 42 bbl., shot 20 qt., Cypress sand 1,509-38 ft.
Carter, 3 Cora Miller.....NE SE NW 17-7n-3e
Pumped 246 bbl., 30 and 50-qt. shots, Cypress 1,462-1,518 ft., and Paint Creek 1,557-75 ft.
Texas, 12 L. Wooten.....SW SW SE 31-7n-3e
Pumped 196 bbl., shot 10 qt., Cypress sand 1,543-56 ft.

St. James Pool

Texas, 8 F. Bennyhoff ..... SW NW SE 30-6n-3e
Pumped 126 bbl., shot 10 qt., Cypress 1,565-80 ft.
Texas, 5 Swarm ..... SW NE SW 30-6n-3e
Salt-water disposal, plugged back 1,170 ft., T.D. 1,369 ft.
Texas, 1 Bennyhoff B ..... NW NW NE 31-6n-3e
Dry, tested 3 gal. oil and 1 bbl. water from plugged-back depth of 1,612½ ft., T.D. 1,625 ft.

Richland County—Dundas Pool

Pure, 2 R. Grove.....E½ SE NE 31-5n-10e
Flowed 243 bbl. through 1-in. choke, Fredonia pay 2,846-50 ft., acid 4,000 gal., T.D. 2,854 ft.

North Noble

De Kalb, 4-C Shilling ..... NE SE SE 32-4n-9e
Pumped 26 bbl. oil and 4 bbl. water, shot 10 qt., Cypress sand 2,608-23 ft.
Mammoth, 1 F. Correll ..... SW SW SE 33-4n-9e
Pumped 40 bbl. oil and 5 bbl. water, shot 10 qt., Cypress sand 2,607-20 ft.
Barlev et al, 1 Heindielmann..NW NE NE 23-2n-14w
Abandoned location.

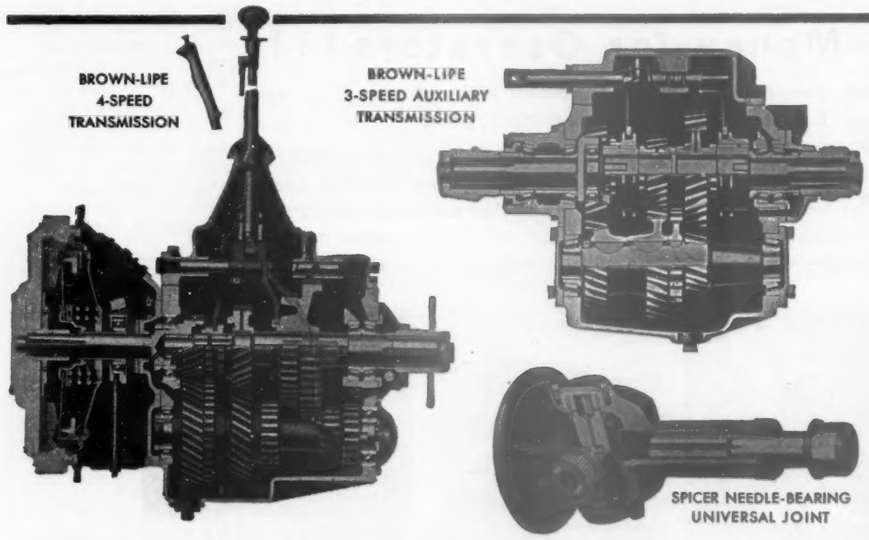
Clay County

Duncan, Inc., 1 A. Skelton ..... E½ SE SE 20-2n-8e
Dry, Fredonia 3,002 ft., T.D. 3,084 ft.

Wayne County—Clay City Pool

Pure, 4 W. Hubble A .....W½ SE NE 32-2n-8e
(Continued on Page 72)

WORTH TALKING ABOUT!



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By
DAL DALRYMPLE

New Pools Are Discovered in Rooks and Stafford Counties

STANOLIND OIL & GAS CO., 1 Roscoe Charles A, C N½ NE SE of 15-24-12w, opened a new pool in southern Stafford County with a flow of 150 bbl. of oil per hour from Viola lime topped at 3,815 ft. Other tops logged were: Topeka 3,010 ft., Lansing 3,470 ft., Simpson 3,935 ft., and the Arbuckle at 3,994 ft., with the first showing of oil at 3,586-91 ft. At total depth of 4,021 ft. there was 3,000 ft. of water in the hole and the well was plugged back to 3,836 ft. Oil rose rapidly after 144 shots from 3,815-50 ft. and flowed after acid treatment.

The new pool is 6 miles west of the Zenith pool and 4 miles east of the St. John pool.

Rooks County Discovery

Western Rooks County gained a new deep oil pool Thursday with official completion of Mitchell Drilling Co., 1 Veverka, in the S½ SE SE 21-8s-19w. The discovery well was completed on official Corporation Commission test for an initial potential of 1,418 bbl. of oil per day, following acid treatment.

Production was obtained from Arbuckle dolomite penetrated 1 ft. to a total depth of 3,435 ft. in the Arbuckle dolomite.

It is situated ¾ mile due south of Aylward Production Co. et al, 1 Silvers, which was completed in October 1930, in NE 21-8s-19w, from the Lansing series at 3,225 ft. and the conglomerate at 3,450 ft.; yielded a total production of 35,500 bbl. of 25 and 35-gravity oil before abandonment a few years later.

Aladdin, 1 Sarah Young, in S½ SE SW 36-19-1w, north offset to the discovery well of the new Bitikofer (chat) pool, flowed 700,000 cu. ft. of gas per day through casing perforations from 2,908 to 2,912 ft. from a plug-back depth of 2,937 ft. in the Mississippian chat; original total depth was 3,370 ft. in barren Viola lime.

Estimated Daily Production

Estimated daily production for Kansas for the week ended August 3, and for the preceding week, was as follows:

	Barrels	
	Aug. 3	July 27
Oxford City	750	750
Burrton	7,800	7,900
Ritz-Canton	3,500	3,650
Graber	1,950	2,550
Hollow-Nikkel	1,550	1,650
Lerado	450	350
Voshell	1,650	1,750
Wellington	1,750	1,800
Ellsworth County:		
Lorraine	1,350	1,600
Other pools	3,375	3,165
Rice-Barton counties:		
Bloomer	3,500	3,700
Chase	3,600	4,450
Geneseo	2,850	3,200
Raymond	1,200	1,150
Silica	13,650	14,000
Keesling	1,000	750
Wherry	2,800	3,700
Miscellaneous Rice	3,610	930
Miscellaneous Barton	9,175	9,225
Trapp district	13,900	13,250
Balance Russell County	19,350	18,450
Sedgwick County	3,100	3,200
Ellis County:		
Bemis	12,900	12,950
Miscellaneous	8,190	7,725
Kingman County	525	855
Stafford County	12,205	12,445
Greenwood County	8,050	8,200
Eldorado	7,450	7,300
Other fields	32,870	35,355
Total Kansas	183,150	186,200

Barton County

Wolfe pool: Texas, 1 Hammeke, N.L NW SE 36-19-12w. Dry, T.D. 3,403 ft., Lansing 3,098 ft., Arbuckle 3,782 ft.

Ellinwood pool: Gulf, 3 Howard, SL NW SW 8-20-11w. S. 128 bbl. 2 hrs., I.P. 3,000 bbl., Arbuckle 3,286-3,302 ft.

Trapp pool: I.T.I.O., 3-B Hoffman, NL NE NW 7-16-13w, 1,539 bbl., T.D. 3,358 ft., Arbuckle 3,353-57 ft.

Butler County

Brand pool: Adair, 1 Baker, SE NE NE 16-28-7. Dry, T.D. 2,826 ft., Mississippi 2,688 ft.

Haverhill pool: Cromwell, 1 Reetz, SW cor. 35-27-5. Dry, Mississippi 2,721 ft., Arbuckle 3,130 ft., T.D. 3,135 ft.

Douglas pool: Simpson, 1 Piper, SW NE SW 17-29-4. 35 bbl., Lansing 1,887-91 ft.

Elbing pool: Aladdin, 3-A Furman, SW SE SW 8-23-4. 15 bbl., Kansas City 2,068-82 ft.

Cowley County

Slick-Carson pool: Sinclair-Prairie, 12 Waite, NE SW SE 19-32-3. 25 bbl., T.D. 3,111 ft., Kansas City 2,591 ft.

Ellsworth County

Edwards pool: Continental, 3 Baker, E½ E½ SE 21-17-9w. 213 bbl. 8 hrs., Arbuckle 3,260-65 ft.

Stoltenberg field: Derby, 2 Schepmann, WL SE NW 16-16-10w, 3,000 bbl., Arbuckle 3,331-40 ft.

Ellis County

Bemis pool: Cities Service, 16 Collahan, NW NE SW 24-11-17w, 3,000 bbl., Arbuckle 3,439-44 ft.

Burnett pool: Wakefield, 3 Burnett, WL SW NE 1-11-18w. 97 bbl., Arbuckle 3,466 ft., T.D. 3,475 ft.

Wakefield, 4 Burnett, EL SW NE 1-11-18w. 97 bbl., Arbuckle 3,586-90 ft.

Bay Petr., 4 Riddler, NL SE NE 12-11-18w. 3,000 bbl., Arbuckle 3,393-3,402 ft.

Shutts pool: Stanolind et al, 1 Staab, EL NE SW 17-12-17w. Dry, Lansing 3,455 ft., base Kansas City 3,674 ft., T.D. 3,822 ft.

Greenwood County

Beaumont field: Weideman, 1-A Lewis, NE NE SE 26-27-18. 25 bbl., Mississippi 2,495-2,510 ft.

Jefferson County

Wildcat: McLaughlin, 1 Frazier, C SE NE 22-9-18. Dry, Mississippi 1,690, T.D. 1,788 ft.

Marion County

Florence field: Enger, 16 Urschel, SW NE SW 21-21-5. Dry, Viola 2,294, T.D. 2,300 ft.

Lost Springs field: Harwood, 1 Mitchell, NE NE SW 14-17-4. Dry, Mississippi 2,325 ft., T.D. 2,411 ft.

McPherson County

Bornholdt pool: Moulton, 3 Briggs, WL NW SW 20-20-5w. 3,000 bbl., Mississippi 3,336-74 ft.

Continental, 4 Bornholdt, WL NE SE 30-20-5w. F. 734 bbl. 7 hrs, Mississippi 3,327-82 ft.

Continental, 4 Knackstedt, SL NE NW 30-20-5w. 48 bbl., Mississippi 3,318 ft., T.D. 3,358 ft.

Pawnee County

British American, 3 Belt, EL SW NW 13-20-16w. 66 bbl., Arbuckle 3,780-3,832 ft.

Pratt County

Cunningham field: Skelly, 1 Steffen-C, C W½ 35-27-11w. 58,000,000 cu. ft. gas, Viola 4,148-68 ft.

Rice County

Geneseo field: Continental, 6 Pickerell, NE SE NW 24-18-8. 282 bbl. 8 hrs., Arbuckle 3,200-09 ft.

Chase field: McPherson Drlg., 1 Patton, NE cor. 17-19-9w. F. 231 bbl. 8 hrs., Lansing 2,882 ft., T.D. 3,296 ft.

Rooks County

Laton field: Vickers, 1 Tatkenhorst, EL NE SE 10-9-16w. 2,805 bbl., Lansing 3,180-84 ft., T.D. 3,208 ft.

Wildcat: Mitchell Drlg., 1 Ververka, S½ SE SE 21-8-19w. 1,418 bbl., Arbuckle 3,434-35 ft.

Russell County

Trapp pool: Shell, 5-A Batt, NE NE SE 35-15-14w. 2,969 bbl., Arbuckle 3,319-26 ft.

Skelly, 2 Goetz, SL SE NW 35-15-14w. 732 bbl., cut 8 per cent, Arbuckle 3,342-51 ft.

Stafford County

Zenith field: Transwestern, 1 Banker-D, EL SW SE 10-24-11w. 3,000 bbl., Misener 3,745-54 ft., T.D. 3,823 ft.

Stanolind, 8 Sims, NL NE NE 11-24-11w. 2,909 bbl., Viola 3,690-3,712 ft., T.D. 3,765 ft.

Stanolind, 1 Charles-A, CNL NE SE 15-24-12w. F. 150 bbl. per hour from Viola 3,815 ft., T.D. 4,021 ft., P.B. 3,836 ft.

WILDCAT DRILLING REPORT

Barton County

Robertson et al, 1 Miller.....CWL SW NE 4-16-14w. Lansing 3,112 ft., show oil 3,321 ft., Sooy 3,344 ft., C.O. 3,355 ft.

Butler County

Jocelyn et al, 1 Hall..... CSL NE SW 7-29-7 Pulled 8-in. 2,024 ft., Kansas City 2,120 ft., T.D. 2,265 ft.

Douglas County

Forrester, 1 Altenbernd..... CSL NW 35-12-20 Mississippi 1,105 ft., shut down 1,380 ft.

Ellsworth County

Billings, 1 Vanek..... SW SW SE 25-14-10w Topeka 2,380 ft., 8-in. 2,380 ft., drilling 2,742 ft.

Pratt County

Herndon Drlg., 1 Montgomery..... CEL SW 13-27-13w Arbuckle 4,441 ft., shut down 4,458 ft.

Rooks County

Aylward Prod., 1 Richards..... CN½ NW SW 31-10-18w Topeka 2,987 ft., drilling 3,000 ft.

Shawnee County

Corbett et al, 1 Security..... CSL NW 28-11-15 Mississippi 1,763 ft., Hunton 2,115-66 ft.

Stafford County

Shell, 1 Bean.....SE SE SW 21-23-12w Riley 1,825 ft., Florence 1,930 ft., Topeka 2,946 ft., drilling 3,040 ft.

Forest City Basin

ST. JOSEPH, Mo., Aug. 5.—Another week in the long struggle against troubles finds operators of the Brin & Nathan, 1 Decker still in high spirits and confident that their No. 1 Decker in C NW NW 1-61n-38w, Holt County, will be the first deep Missouri producer. Developments of the week in brief were: Seven-inch pipe cemented at 2,300 ft., appearance of casing leak at 1,952 ft., drilling of plug and acidization delayed. Operators now are trying to repair casing. The hole is bottomed at 2,310 ft., corrected measurements, and the last 6 to 8 ft., which contained good showings of oil, are expected by operators to produce.

During the week interest heightened in Caldwell County, Missouri, as O. M. Evans of Tulsa brought in a gas well at his No. 1 F. G. Arnote, C NW SE 36-55n-29w. During July he drilled another gas well in Section 25. Both are known to be shallow and both are on Skelly acreage. Very little information is being given out, but highly reliable sources state the wells actually are Skelly Company tests and that more are to be made in the area. Skelly core drilled the area and rearranged its lease holdings, concentrating on territory west of the town of Polo. Coming days are expected to see drilling by others in the general area. A. W. Hutchings of Nashville, Ill., was scheduled to move a rig into NE SE SW 36-55n-29w, for his No. 1 Fowler.

Drilling in Mississippi lime, American Oil & Gas Corp., 1 Thompson in SW SW 30-58n-31w, DeKalb County, Missouri, had reached 1,400 ft. Depth of E. H. Lawhon, 1 Gottschall in C SE SE 18-59n-32w, DeKalb County, was unreported, but the test was supposed to be somewhere in Mississippi lime. Chillicothe Syndicate, 1 Linton in W½ SE 15-56n-23w, Livingston County, was drilling below 1,050 ft. after setting 6-in. pipe at 1,012 ft.

Nebraska had one start and one dry hole during the week. R. L. Campbell, 1 Schock in the Falls City pool, Richardson County, Lot 4, 20-1n-16e, was started as a rotary test by E. J. Shaffer of Hutchinson, Kans. At the same time E. J. Shaffer and Fred Rust had a Hunton lime failure at their No. 2 Boose in SE NW 16-1n-16e, about 1½ miles east of No. 1 Boice discovery well. Hunton lime was topped at 2,359 ft. and cored to 2,364 ft., cored again from 2,364 to 2,382 ft., and from there to 2,393 ft., the total depth. There was no saturation and the well was abandoned.

Skelly Oil Co. entered the drilling play in Richardson County, Nebraska, by making a location for an east offset to Harry Harper, 1 Sibbernsen well, biggest in the Falls City pool. Skelly, 1 Nora Davisson, will be in SW NW NE 20-1n-16e. Rotary tools are being moved in by the Lee Drilling Co. of Tulsa.

Talk is being heard of reopening certain abandoned wells and others making too much water to be practical and drilling them to Viola lime for a test. Viola production is believed to be a likely possibility in the Falls City pool.

Corrected listings of two Nemaha County, Nebraska, tests are given herewith. Black Gold and Isaacks, 1 Ord in C NW NW 8-5n-14e, elevation 959 ft., is moving in rotary tools after drilling with cable tools to 419 ft. Nemaha County Developing Corp., and Isaacks, 1 Lehr in SE SE 23-5n-14e, was shut down at 1,335 ft.

In the Kansas area Dan McLaughlin had a dry hole. His No. 1 Frazier in C SW NE 22-9s-18e, was dry at 1,788 ft. His No. 2 Darks, SE NE 5-10s-20e, Jefferson County, set 8-in. at about 892 ft., and was drilling below 915 ft.

Sagamore, 1 Hammer, SE SW 33-13s-22e, Johnson County, Kansas, had 130,000 cu. ft. of gas at about 480 ft.

In Douglas County, Kansas, S. W. Forrester, 1 Altenbernd in SW SE NW 35-12s-20e, was drilling below

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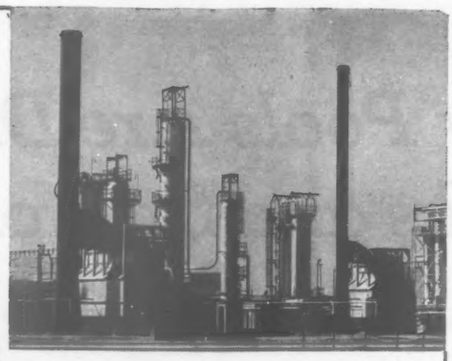

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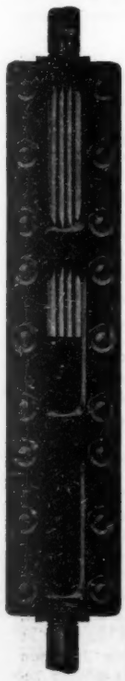

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1,380 ft. His No. 1 Ice, SW SE SE 9-14s-19e, was drilling at 980 ft.

Two miles west of Topeka in CSL NW 28-11s-15e, Bill Corbett, 1 Security Benefit Association, had good showings in the top of Devonian lime at around 2,170 ft. Pipe was cemented and the test was to be acidized.

MISSOURI

Holt County

Brin & Nathan, 1 Decker . . . . . C NW NW 1-61n-38w
Seven-inch 2,300 ft.; T.D. 2,310 ft.

NEBRASKA

Richardson County

Hayden et al, 1 Horton . . . . . C NE NW 5-1-15
Dry; T.D. 3,398 ft.; Mississippi 2,253 ft.; Hunton 2,653 ft.; Viola 3,372 ft.

C. L. Carlock, 1 Holt . . . . . C SW SW 35-2-16
Dry; T.D. 2,503 ft.; Mississippi 2,130 ft.; base Mississippi 2,240 ft.

Forest City, 1 Windle-Dodge . . . . . SE NE SE 3-1n-15e
Lansing 895 ft.; base Kansas City 1,225 ft.; 8-in. 1,300 ft.

Scotts Bluff County

Wood, 1 McHenry . . . . . SE NE NE 33-23-57w
Dry; T.D. 1,209 ft.

Fairy Pet., 1 McCulley . . . . . C SE SE 35-23-58w
Dry; T.D. 2,100 ft. in Pierre shale; show gas 785 ft.; show oil 1,495 ft.

Illinois Fields

(Continued from Page 70)

Flowed 325 bbl., acid 5,000 gal., Fredonia pays 3,040-47 ft. and 3,090-93 ft., T.D. 3,100 ft.

Pure, 5 J. Hubble . . . . . W½ SE SE 32-2n-8e
Flowed 776 bbl., acid 5,000 gal., Fredonia pay 3,019-26 ft. and 3,059-65 ft., T.D. 3,087 ft., Rosiclaire at 2,976-82 ft., also showed saturation.

Enterprise Pool

Pure, 1 Powell-Hubble Consol. . . . . E½ SE SE 5-1n-8e
Pumped 188 bbl., acid 5,000 gal., Fredonia pays at 3,029-35 ft. and 3,070-73 ft., T.D. 3,100 ft.

Aden Pool

H. H. Weinert, 7 McPherson . . . . E½ SW NW 3-2s-7e
Flowed 500 bbl. naturally, McClosky pay 3,198-3,226 ft., T.D. 3,250 ft.

Texas, 1 D. Davis . . . . . W½ NW NW 10-2s-7e
Pumped 99 bbl. oil and 83 bbl. water in 16 hours, acid 3,000 gal., St. Louis 3,311 ft., T.D. 3,315 ft.

Barnhill Pool

Robinson, 2 A. J. Feli . . . . . SE SW SW 26-2s-8e
Pumped 201 bbl., acid 5,000 gal., McClosky 3,358-68 ft. and 3,382-86 ft., T.D. 3,411 ft.

New Penn, 2 Elliott . . . . . NW NW NE 35-2s-8e
Pumped 118 bbl., 3,000 gal. acid, McClosky 3,399-3,406 ft., T.D. 3,410 ft.

Texas, 6 J. Boggs . . . . . NE SE 8-3s-7e
Pumped 226 bbl., acid 3,000 gal., McClosky pay 3,347-52 ft., T.D. 3,360 ft.

Wabash County—Lancaster Pool

Big Chief, 2 Seibert . . . . . NW SE SW 34-2n-13w
Swabbed and flowed 500 bbl., acid 1,500 and 3,500 gal., McClosky pays 2,650-53 ft. and 2,674-83 ft., T.D. 2,688 ft.

Fundey et al, 2 Guisewite . . . . . NE NW SW 3-1n-13w
Pumped 285 bbl., acid 2,000 gal., McClosky 2,653-76 ft.

Maud Pool

Sam Yingling, 1 Seiber . . . . . SW SW SW 26-1s-13w
Pumped and flowed 430 bbl., Cypress 2,114-32 ft., Hardinsburg 2,095 ft., T.D. 2,132 ft.; other tops are Waltersburg 1,855 ft., Tar Springs 1,930 ft.

Griffin Pool

Tide Water, 5 Spencer . . . . . NW NW NW 20-2s-13w
Dry, McClosky 2,812-16 ft., 2,804-07 ft., T.D. 2,900 ft.

Vickers Petroleum, 6 Bump . . . . NW NW SW 9-2s-13w
Pumped 72 bbl., shot 20 qt., Cypress sand 2,437-47 ft., T.D. 2,454 ft.

Continental, 7 A. Gray . . . . . SE NE SE 19-2s-13w
Pumped 26 bbl. in 10 hours, Cypress sand 2,456-67 ft., T.D. 2,468 ft.

Continental, 5 J. Gray . . . . . SE NE NE 30-2s-13w
Pumped 170 bbl., shot 40 qt., Cypress sand 2,456-78 ft., T.D. 2,479 ft.

Longhorn Oil, 11 Heil . . . . . SW SW SW 7-3s-13w
Pumped 140 bbl., shot 40 qt., Cypress sand 2,469-89 ft., T.D. 2,496 ft.

White County

Texas, 3 A. Poorman . . . . . SW NE SE 31-3s-8e
Pumped 90 bbl. oil and 5 bbl. water, shot 40 qt., Aux Vases 3,225-60 ft.

Burnt Prairie Pool

Less, 1 Charles Pollard . . . . . SE NE SE 29-3s-9e
Flowed 365 bbl., acid 4,000 gal., McClosky pay 3,414-22 ft.

Phillipstown Pool

Sun, 3 Garner . . . . . NE SW SE 1-5s-10e
Dry, Tar Springs 2,270 ft., Hardinsburg 2,432 ft., Cypress sand 2,649 ft., T.D. 3,003 ft.

Storms Pool

Mercer Bros., 1 E. Chapman . . . . . NE NE NW 26-6s-8e
Flowed 450 bbl. naturally, Hardinsburg 2,502-08 ft., with show of oil, Cypress sand 2,740-46 ft. with show of oil, Fredonia 3,032 ft., pays 3,037-45 ft. and 3,058-64 ft., T.D. 3,077 ft.

Hamilton County—Dale Pool

Kingwood, 4 Dodd . . . . . NE NE NW 6-6s-7e
Pumped 117 bbl. oil and 28 bbl. water, Cypress sand 2,707-33 ft., St. Louis 3,268 ft., plugged back 2,716 ft., shot 40 qt., T.D. 3,271 ft.

Franklin County

E. S. Adkins, 2 Old Ben Coal Co. SW SE NE 24-6s-1e
Dry, McClosky 2,767-72 ft., Aux Vases 2,575 ft., had small show oil, T.D. 2,860 ft.

Jackson County

Trans-State Oil, 1 Burroughs . . . . . SW SE SW 6-7s-1w
Dry, Cypress 1,405 ft., McClosky 2,010 ft., T.D. 2,035 ft.

F. R. Dunne et al, 1 Baum.....SE NE SE 12-9s-4w
Dry, no tops, T.D. 990 ft.

A large number of wells were being worked over in the state with the Salem pool in Marion County leading in this work. Following are the recompletions in Township 1n-2e of the Salem pool:

Ohio, 3 Murray.....NE NW SE 33-1n-2e
Pumped and flowed 206 bbl. in 15 hours, old T.D. 1,803 ft., Aux Vases 1,813 ft., shot 40 qt., new T.D. 1,878 ft.
Ohio, 7 Murray.....NW NW SE 33-1n-2e
Flowed 508 bbl. after 3,000 gal. acid, well had been dead since March 1939.
Ohio, 1 Murray.....SE NW SE 7-1n-2e
Production increased from 120 bbl. to 208 bbl., old T.D. 1,823 ft., Aux Vases 1,826-86 ft., shot 40 qt.
Ohio, 4 Murray.....SE SW SE 7-1n-2e
Production increased from 40 bbl. to 120 bbl., old T.D. 1,858 ft., shot in Aux Vases 1,844 ft., new T.D. 1,900 ft.
Ohio 6 R. L. Murray.....SW NW SE 7-1n-2e
Flowed 850 bbl., cleaned out, swabbed, run tubing, acidized with 3,000 gal., T.D. 2,100 ft.
Ohio 5 R. L. Murray.....SW SW SE 7-1n-2e
Pumped 120 bbl., shot 20 qt. 1,858-63 ft., T.D. 1,873 ft.

In Township 2n-2e of the Salem pool, the following wells were recompleted:

Ohio, 1 Mathew Young heirs.....NW SE SW 20-2n-2e
Production increased from 60 bbl. to 200 bbl., old T.D. 1,834 ft., Aux Vases 1,845-75 ft., T.D. 1,880 ft.
Ohio, 4 M. Young heirs.....SW NE SW 20-2n-2e
Production increased from 60 bbl. pumping to 180 bbl. flowing, old T.D. 1,835 ft., Aux Vases 1,840 ft., new T.D. 1,877 ft.
Ohio, 9 M. Young heirs.....SE NE SE 17-2n-2e
Pumped 40 bbl. in 7 hours, old T.D. 1,880 ft., shot 10 qt., new T.D. 1,888 ft.
Haynes et al, 1 Young heirs strip..SE SE SE 20-2n-2e
Pumped 40 bbl., old T.D. 2,059 ft., deepened to 2,217 ft., was making 18 bbl. from McClosky before deepening.
Ohio, 1 M. Young heirs.....NW SE NW 29-2n-2e
Flowed 125 bbl. in 11 hours, shot 20 qt., T.D. 1,903 ft.
Ohio, 3 M. Young heirs.....NE NE SW 20-2n-2e
Production increased from 120 bbl. to 200 bbl., old T.D. 1,799 ft., Aux Vases 1,835-76 ft., shot 20 qt., T.D. 1,876 ft.
Ohio, 8 Young heirs.....SE NE SW 20-2n-2e
Production increased from 80 bbl. to 215 bbl., old T.D. 1,787 ft., shot 40 qt., Aux Vases 1,830-70 ft.
Ohio, 10 M. Young.....SW NE SE 17-2n-2e
Pumped 50 bbl. in 17 hours, shot 10 qt. 1,877-82 ft., T.D. 1,889 ft.
Ohio, 38 Young heirs.....SW SE NW 29-2n-2e
Pumped 93 bbl. in 12 hours, old T.D. 3,430 ft., shot 60 ft. 3,400-24 ft., T.D. 3,480 ft.
Ohio, 8 Lloyd.....NE NW NE 33-2n-2e
Pumped 80 bbl. in 15 hours, old T.D. 1,880 ft., shot 40 qt. after plugging back to 1,831 ft.
Ohio, 9 C. E. Floyd.....SE NW NE 33-2n-2e
Production increased from ½ bbl. to 25 bbl., old T.D. 2,077 ft., Salem 2,251 ft., plugged back to 1,930 ft.

Richland County

In the Noble pool, Ohio Oil Co. worked over the following:

Ohio, 4 Arbuthnot.....NE NE NW 8-3n-9e
Pumped 44 bbl., old T.D. 2,953 ft., perforated 50 holes 2,572-93 ft.
Ohio, 3 Arbuthnot.....NW NE NW 8-3n-9e
Salt-water disposal well, casing perforated at 2,576-85 ft.

In the St. James field in Fayette County, Ohio Oil Co. worked over the following wells:

Ohio, 2 H. F. Peters.....SE NE NW 36-6n-2e
Pumped 40 bbl., perforated 1,566-70 ft. with 20 ½-in. holes, T.D. 1,615 ft.
Ohio, 1 H. F. Peters.....NE NE NW 36-6n-2e
Pumped 72 bbl., perforated at 1,566-72 ft. with 30 ½-in. holes, T.D. 1,611 ft.
Ohio, 2 J. Kistler.....W½ W½ NW 31-6n-3e
Pumped 75 bbl., perforated 1,572-80 ft. with 40 ½-in. holes, T.D. 1,613 ft.

WILDCAT OPERATIONS

Adams County

Menne et al, 1 Summers.....NW NW SW 13-1n-9w
Fishing at 140 ft.

Bond County

National Pet. Co., 1 Spindler....NW NW NW 10-6n-2w
Plugged back to 1,002 ft. from 2,454 ft., T.D., ran 7-in. casing, shot 20 qt. 1,016-21 ft. in Benoist, swabbed 10 bbl. per hour and a trace of water, putting in pump.
W. F. Lacey, 1 Cartwell.....NW NW SE 29-5n-2w
Fredonia 1,317 ft., St. Louis 1,400 ft.
Poland et al, 1 Marrow.....SW SE SE 7-5n-1w
Coring 1,590 ft.
W. H. Dickerson et al, 1 Wise.....W½ NE 19-4n-2w
Ste. Genevieve 1,246 ft., Fredonia 1,265 ft.

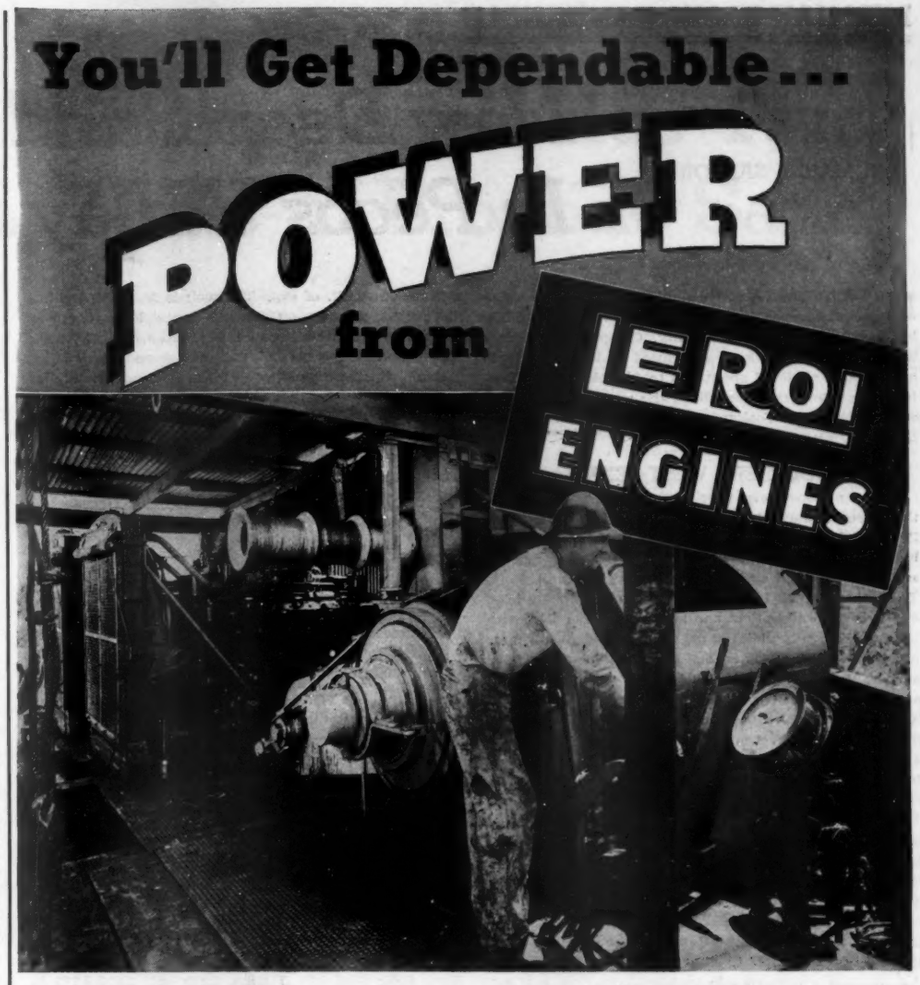
Clark County

Tex Harvey, 2 Tyhurst.....NE SW SE 26-9n-14w
Drilling at 580 ft.
H. R. Snavely, 1 Scholfield....SE NE SE 6-11n-11w
Trenton 3,272 ft., running 5½-in. casing.
Harr & Hawley, 1 Pinnell.....SE NW SE 6-11n-14w
T.D. 2,595 ft., shot 120 qt. 2,450-80 ft. and 120 qt. at 2,400-50 ft., cleaning out.

Clinton County

H. F. Williams, 1 Bach.....NW NW NW 21-1n-2w
Devonian 2,695 ft., dolomite 2,739 ft.
Bert Fields, 1 Zachary.....SW SW NE 1-1n-3w
Warsaw 1,847 ft., Osage 1,900 ft.
Snell & Goldsmith, 1 Schaefer..SW NE NW 32-2n-3w
Pay 2,515 ft., 50 ft. of fluid in hole with some salt water, 5,000 gal. acid, swabbed 60 bbl. oil in 8 hours, T.D. 2,520 ft., to drill deeper.
L. S. Miller, 1 Schmidt.....E½ W½ SE 35-2n-5w
Ran 6⅝-in. casing to 1,062 ft.

(Continued on Page 90)



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By R. MARNE SANFORD

New Deep Sand Discovered In Pecos Valley Field

MIDLAND, Tex., Aug. 5.—A new and deeper horizon was discovered during the week in the Pecos Valley low-gravity field in Pecos County. Completion progress was under way as the week closed and the well was estimated capable of about 600 to 700 bbl. daily, flowing. Other important events of the week included new wildcats for both Yoakum and Dawson counties in the North Permian basin area.

SOUTHERN WEST TEXAS

In the northwestern part of the low-gravity area of the Pecos Valley field Ward-Pecos Petroleum, 6-D-E Pecos Valley, SW Section 36, Block 3, H.&T.C. Survey, blew in last week with an initial flow of between 500 and 700 bbl. of oil and about 2,000 bbl. of water daily. The test was drilled deeper below the regular pay level of the Pecos Valley field and at 1,660 ft. was shot with 116 qt. and again with 100 qt. Slight shows of oil were reported following the shots, however, it was carried deeper. An estimated 2,000,000 cu. ft. of gas was found at 1,865 ft. with sulfur water struck just below this point. A 5-ft. core below this point was taken and the oil followed the core barrel out of the hole. Drilled deeper to a total depth of 2,043 ft., the well flowed oil and water into pits for several hours at an ungaged rate. The first accurate gage gave the well 46 bbl. of oil and 185 bbl. of water hourly or at the rate of about 1,100 bbl. of oil and 4,440 bbl. of water daily. Further testing at the close of the week revealed that most of the water was coming from below the oil zone and operators were of the opinion that it could be successfully cased off. New estimates on the well's potential range from 600 to 700 bbl. daily, flowing. The oil is reported to have tested from 22 to 24 gravity.

Somewhat duplicating the performance of the discovery well in the Soma area of western Crockett County, a mile-north outpost to the Soma area blew in as a wild gasser during the week. The tools were blown from the hole at a depth of 1,512 ft. by an estimated 50,000,000 cu. ft. of gas. The well is M. & M. Drilling Co.'s first attempt on its Bouscaren lease north of the discovery well, located in Section 29, G.C.&S.F. Survey. Attempts to kill the wild gasser were being made as the week closed. With the well running higher, structurally, than the discovery well, it is thought doubtful that an oil horizon will be found beneath the gas level. Dealings are under way at present to complete the well for a gas producer, Lone Star Gas Co. having bid for the well's yield.

SOUTHERN WEST TEXAS COMPLETIONS

(24-hour gages)

Crane County

Waddell field: Gulf, 12 Waddell, 1,622 bbl., 4,392-4,409 ft.

Ector County

North Cowden field: Barnsdall, 13 Smith, 1,249 bbl., 4,065-4,210 ft.
Humble, 3-B Henderson, 1,062 bbl., 3,984-4,200 ft.
Goldsmith field: Gulf, 296 Goldsmith, 1,353 bbl., 4,165-4,215 ft.
Gulf, 300 Goldsmith, 1,133 bbl., 4,180-4,245 ft.
Foster field: Oil Well Drlg., 1 Moss, 60 bbl., 4,097-4,225 ft.
Stanolind, 43 Witcher, 1,255 bbl., 3,906-4,110 ft.
Johnson field: Sunray, 5-D Johnson, 252 bbl., 4,049-4,148 ft.
Sunray, 1-E Johnson, 127 bbl., 4,107-71 ft.
Jordan field: Texas, 4 McDonald, 1,247 bbl., 3,355-3,685 ft.

Glasscock County

Wildcat: Moore Brothers, 1 Currie, dry, T.D. 4,202 ft.

Loving County

Wheat field: Fred Hyer, 3 Russell, 70 bbl., 4,215-4,322 ft.

Pecos County

White & Baker field: Cardinal, 1-E-52 White & Baker, 28 bbl., 1,809-21 ft.
Lehn field: W. E. Keeney, 5 Masterson-Lehn, 106 bbl., 1,685-1,725 ft.
Sahara Oil, 12-B Sullivan, 141 bbl., 1,694-1,707 ft.
Tobarg field: A. J. Rife, 5 Tippett, 9 bbl., 468-76 bbl.

Ward County

Estes field: Gulf, 137 O'Brien, 1,243 bbl., 2,675-2,775 ft.
South Ward field: Edwards, Moore & Donnelly, 1 Bertner, 397 bbl., 1,843-80 ft.

WILDCAT OPERATIONS

Crane County

Moore Bros., 2 Barnsley, NE NE Sec. 42, Blk. 42, P.S.L. Sur., 2 mi. SE of Gulf Oil Corp.'s discovery well, No. 1-A Tubb. Spdg.; no report.
Gulf, 5 M. B. McKnight, Sec. 1, Blk. 21-B, P.S.L. Sur. S.D.O. 7,614 ft.; no shows found below 6,700 ft.
Gulf, 1-F University, SE SE Sec. 22, Blk. 31, Univ. Sur. M.I.R. 3,230 ft.

Crockett County

M. & M., 1 G. Bouscaren, SE cor. NW Sec. 29, Blk. GG, H.E.&W.T. Sur., 1 mi. N of Soma discovery well. Gas blowout of 50,000,000 cu. ft. at 1,512 ft.; installing master gate preparatory to completion.

Hudspeth County

Haymon Krupp, 1 Briggs, Sec. 24, Blk. 73, Twp. 7, T.&P. Sur. 5½-in. csg. cmtd. at 6,202 ft.; drlg. below 6,206 ft.

Pecos County

Plymouth, 1 Richard Levy, SW cor. Sec. 104, Blk. 8, H.&G.N. Sur. Drlg. below 6,175 ft.
Taubert, McKee & Siemoneit, 1 Crockett, SW Sec. 4½, Blk. 3, H.&T.C. Sur. Drlg. 1,579 ft.

Reagan County

R. E. Ringo, 1 fee, 1,320 ft. from N and W lines of Sec. 22, Blk. K, 3,500-ft. test. Drlg. 3,295 ft.

Sutton County

Domain, 1 G. S. Allison, SW NE Sec. 91, Blk. 9, T.W.& N.G. Sur., Ellenburger L. test. S.D.O. 1,088 ft.

Ward County

Gulf, 5 Wristen, Sec. 13, Blk. 5, H.&T.C. Sur.; scheduled Ordovician test. Reaming csg. 8,788 ft.
Sinclair Prairie, 1 Wirt Davis, 330 ft. NW, 2,310 ft. SW lines Sec. 32, Blk. 4, H.&T.C. Sur.; 3,500-ft. test. Drlg. 1,713 ft.

Winkler County

Gulf, 136 O'Brien, SE SW Sec. 11, Blk. F, G.&M.M.B.&A. Sur. Wtr. at T.D. 3,187 ft.; P.B. 2,970 ft. Gaged 25 gal. oil and 6 gal. water per hour on latest test; cleaning out at 3,187 ft. for another test.

NORTHERN WEST TEXAS

Southwestern Yoakum County was given a new wildcat operation by Shell Oil Co., Inc., on its Hudson lease just south of the Roberts sector of the Wasson field. It is about 1½ miles southwest of production in the western part of the large field and will seek to extend the production. Already spudded and drilling below 1,580 ft., it is the company's No. 1-B Hudson, located 440 ft. from the north and west lines of Section 858, Gibson Survey.

Confirming the previous belief that the structure on which the large Wasson field is located drops off sharply just northeast of the Bennett sector, Sloan & Zook and T. N. Sloan, 1 Waples-Platter, wildcat started last week as a north outpost to the Waples-Platter sector of the field, encountered the Brown lime at a structurally low position. The wildcat topped the marker at 4,350 ft., which is lower than the top recorded in the first well drilled on the Waples-Platter land. The test was last reported drilling below 4,510 ft.

New wildcat operation for Dawson County and one which will be a 5½-mile southeast outpost to the Cedar Lake field of northeastern Gaines County, was staked by Magnolia Petroleum Co. as its No. 1 A. Sandidge. The location falls 2,200 ft. from the south and west lines of Section 10, Block M, E.L.&R.R. Survey. Contracted to 5,000 ft., it will seek the 4,700-ft. pay of the Cedar Lake field.

A wildcat in Andrews County attracted considerable attention during the week as several shows of free oil were found. It is Texas Pacific, 1-A Midland Farms, Section 1, Block 40, Township 1n, T.&P. Survey. Located about 14 miles northwest of the town of Midland, the wildcat reported both oil and sulfur water on a drill-stem test at 4,873 ft. Porosity was reported drilled from 4,850-70 ft. and as the week closed testing continued through 2-in. tubing set on bottom at 4,873 ft.

NORTHERN WEST TEXAS COMPLETIONS

(24-hour gages)

Andrews County

Means field: Humble, 27 Means, 600 bbl., 4,500-44 ft.

Gaines County

Seminole field: Amerada, 1 Crain, 480 bbl., 5,239-5,368 ft.
Magnolia & Atlantic, 3-221 H.&J., 411 bbl., 5,098-5,268 ft.
Magnolia & Atlantic, 1-251 H.&J., 638 bbl., 5,125-5,275 ft.
Magnolia & Atlantic, 9-265 H.&J., 724 bbl., 5,160-5,290 ft.

(Continued on Page 76)

Southwest Map Co., Fort Worth

A new deep level in the low-gravity area of the Pecos Valley field was opened during the week at a well which is reported making from 600 to 700 bbl. of oil daily. Considerable water is present with the oil; however, it is believed coming from below the pay and can be cased off

Cumberland Area Has Two New Wells in Bromide Sand

By DAL DALRYMPLE

THE Oklahoma oil well nomenclature committee of the Kansas-Oklahoma division, the Mid-Continent Oil and Gas Association, at its special meeting held late last week, officially named five new pools that had been opened during late June and July.

They follow: East Cromwell pool, which was opened by the Reese Drilling Co. at No. 1 Berryman, in NW SW SW 36-11-8, in Okfuskee County, and which made 340 bbl. initial in 12 hours from the Cromwell sand at 3,462 to 3,476 ft.

North Okemah pool, opened by Texas, 1 Cowan, SWC 5-11-10, Okfuskee County, and which made 243 bbl. in 10 hours when plugged back to the Hunton lime at 3,718 ft. Geology of the area was first worked by J. Hiram (Spot) Tandy of Tulsa.

South Olive pool of Creek County, opened by O. E. Dempsey et al, 1 Marrs, NE NW SW 29-18-8, which made 48 bbl. on the pump from the Prue sand at 2,445 to 2,455 ft.

West Stillwater

West Stillwater pool of Payne County is the area opened by W. H. Elson et al, 1 Murphy, SE NE NW 20-19-2, and making 700 bbl. in 18 hours from the Hunton lime at 4,552 to 4,576 ft.

The Mason pool of Okfuskee County, opened by the Burke-Greis Oil Co., et al, 1 Dew, in NE NE NE 9-12-9, doing 85 bbl. of oil and 2,500,000 cu. ft. of gas initially from the Hunton lime at 3,890 to 3,936 ft.

"Tentative" was the decision given to the application to name H. L. Wirick et al, 1 Bell, W½ NE 5-14-5e, the West Davenport pool of Lincoln County, and the Enid pool of Garfield County, opened by Champlin, 1 Kunkel, E½ SE NW 23-23n-6w.

Estimated Daily Production

Estimated daily production in Oklahoma for the week ended August 3, and for the preceding week, was as follows:

	Barrels	
	Aug. 3	July 27
Allen	5,225	5,250
Billings	5,950	6,000
Burbank	7,025	7,025
South Burbank	8,025	8,050
Balance Osage	17,000	17,025
Blackwell district	3,400	3,400
Bristow-Slick	5,800	5,800
Chandler	1,025	1,025
Crescent	2,100	2,150
Cromwell	2,825	2,850
Cushing-Shamrock	9,100	9,100
Duncan	3,625	3,625
Edmond	4,025	4,025
Fish	3,150	3,175
Fitts	16,250	16,100
Jesse	2,100	2,100
Graham-Fox	2,400	2,400
Gray	775	775
Healdton	8,650	8,700
Hewitt	3,800	3,800
Keokuk	3,125	3,100
Konawa	1,050	1,050
Lucien	7,850	7,900
Moore	1,775	1,800
Northeastern counties	17,100	17,100
Oklahoma City	109,200	98,300
Olympic	1,950	1,950
Ramsey	3,725	3,775
Sasakwa	1,425	1,450
Sholem-Alechem	2,700	2,700
Seminole district:		
Bowlegs	6,600	6,650
Carr City	2,325	2,325
Dora	2,200	2,250
Earlsboro	4,150	4,150
East Earlsboro	1,750	1,775
South Earlsboro	525	525
Little River	6,550	6,600
East Little River	650	650
Maud	525	550
Mission	1,225	1,225
Seminole	7,025	7,000
East Seminole	1,150	1,175
Searight	2,025	2,025
Total Seminole	36,700	36,900
St. Louis-Pearson	25,150	25,450
Tatums-Tussy	1,975	2,000
Tonkawa-Garber-Thomas	3,675	3,675
Wewoka	1,450	1,450
Yale-Jennings	3,125	3,125
Other pools	79,625	79,325
Total Oklahoma	413,850	403,625

Cumberland Area

Two more producing wells were added Saturday in the Cumberland pool of Marshall and Bryan counties by the Pure Oil Co., which drilled the discovery well on a 22,000-acre block. Pure, 1 Little 101, NE SW SE 26-5s-7e, Marshall County, started washing the hole and began flowing at irregular intervals, from plugged-back depth of 5,119 ft. in the Bromide. The well produced a total of 217 bbl. of oil in 23 hours. The oil tested 35.9 gravity at 80°.

Pure, 1 Thomas 102, SW NE NW 28-5s-7e, Bryan County, at plugged-back depth of 5,127 ft., was washed into production and started flowing into tanks at 6:30 Saturday morning. The well flowed 740 bbl. of oil in 5 hours and made gas at the rate of 2,000,000 cu. ft. a day. Casing pressure was 800 lb. and tubing pressure 900 lb. Operators had a show of salt water and prepared to kill the flow and plug back for completion.

Pure, 1 Park College 200, SW SW SE 27-5s-7e, was drilling at 4,301 ft. in brown lime. No. 2 Little 100 was drilling at 1,368 ft. in black shale. No. 1 Little 201, NE SE SE 28-5s-7, and No. 1 Metz 105, NE NW NW, 28-5s-7, were waiting on rotary tools.

No. 1 Chrisman 104, NE NE NE 29-5s-7, at 720 ft. in black shale, was drilling cement plug and building derrick. No. 1 Stewart 103, SW SE NE 28-5s-7, at total depth of 5,090 ft., was conditioning mud, connecting up and preparing to wash into production. No. 1 Thomas 202, NE SE NW 25-5s-7e, was building derrick. No. 3 Little 100, NE NE SE 28-5s-7e, was completing road and cleaning up location.

Prague Pool

Two more wells are in the Skinner pay zone and are looking like producers to improve the prospects of the new Prague pool, on the Lincoln-Pottawatomie County line.

Magnolia, 1 Studer, NE NE NE 5-11-6, in Pottawatomie County, topped the sand at 3,268 ft., cored at 3,270-75 ft. total depth, and was running casing. H. L. Berkey, 1 Gregg, SE SE SE 32-12-6e, Lincoln County side, drilled to 3,285 ft., and was cementing casing.

Set for hearing Wednesday before the state Corporation Commission is petition of the Midstates Oil Corp. for 10-acre well-spacing and other regulations for the new field. The petition lists 27 leaseholders in the proposed area.

The area to be zoned comprises Sections 3, 4, 5, 8, 9 and 10-11n-6e, in Pottawatomie County, and Sections 27, 28, 32, 33 and 34-12n-6e, in Lincoln County. There are many small tracts within the bounds of the proposed spacing-unit block.

There are two producers in the area: H. L. Berkey et al, 1 Wilson, the discovery well in Pottawatomie County, and Midstates et al, 1 Provaznik in Lincoln County. These wells are estimated at 400 bbl. or better per day. Drilling costs are estimated at $17,000 per well.

Coyle Pool

Development of the Hunton lime zone of the Coyle pool, near Goodnight in Payne County, probably will be delayed since the initial plug-back well has encountered a lot of salt water.

Blackwell Oil & Gas and Helmerich & Payne, 3 Collins, W½ NE NW 13-17-1, on the south line of the field, was a small producer in the Wilcox sand at 4,869-86 ft., total depth 4,891 ft. It plugged back and perforated at 4,605-20 ft. in the Hunton, about a month ago and showed for a small well with some water.

After a shutdown, it was reopened and on test last week produced 70 bbl. of oil and 430 bbl. of salt water in 24 hours.

OKLAHOMA WILDCATS

Creek County

Stonehill, 1 Vann ..... NW SE NW 7-17-9
Wheeler 1,076 ft., show oil and gas. Drilling 1,980 ft.

Garfield County

Champlin, 1 Kunkel ..... E½ SE NW 23-23-6w
Ran 6,100 ft. tubing. Built up 625-lb. pressure. Flowed 153 bbl. 3½ hr. and died overnight. Flowed 121 bbl. and died. Est. flowing by heads 150 bbl. daily. T.D. 6,190 ft. P.B. from 6,930 ft.

Hughes County

Walker & Sexton, 1 Hawthorne ..... SW SW SE 19-7-10
Show oil 414 ft., lime 830-38 ft., show gas. Drilling 1,061 ft.

Kay County

Alma, I Livengood ..... NE NE NW 29-26-2
Mississippi lime 3,680 ft., drilling 3,992 ft.

Muskogee County

C. W. Garrett, 1 Reinhart ..... SE SE SE 15-13-17
Base Booch 982 ft., hole full of water. 8-in. casing 1,004 ft., drilling 1,540 ft.

Okfuskee County

Texas, 1 Cowan ..... SW SW SW 5-11-10
Hunton 3,646 ft., Wilcox 3,879 ft., T.D. 3,916 ft., P.B. to 3,719 ft. Flowed 2 bbl. oil and 1 bbl. water per hour. Acidized with 1,000 gal., flowed 243 bbl. oil and 6 bbl. water, 9½ hrs., 42.2 gravity. 3,200,000 cu. ft. gas.

Oklahoma County

Continental, 1 Remund ..... SE SE SE 24-14-4w
Sylvan 6,352 ft., Viola 6,454 ft., Dense 6,496 ft., drilling 6,638 ft.

Pawnee County

Benedum & Trees, 1 State ..... SW NW NW 13-21-6
Prue 2,494-2,565 ft., T.D.

Payne County

H & H, 1 Linsenmayer ..... SE SE SW 3-18-4
Hogshooter 2,500 ft., Layton 2,580 ft., Checkerboard 2,860 ft., Cleveland 2,910 ft., Wheeler 3,191-3,210 ft., Oswego 3,220 ft., show oil. S.D. 3,260 ft.

Pottawatomie County

J. F. Smith, 1 Brown ..... NE SE NE 6-7-4
Calvin 3,575 ft., Earlsboro 3,855 ft., Woodford 3,950 ft., Hunton 3,957 ft., good show of oil 3,957-63 ft., T.D. Set 7-in. casing at 3,959 ft.

OKLAHOMA FIRST REPORTS

Comanche County

Mohican, 1 Boyleston ..... NW NE 9-5s-9w

Creek County

Greer, 2 Morgan ..... NW SW 9-17-8
Thomas, 3 Richard ..... CSL NE SE 36-18-9
Bryan, 1 Dean ..... W½ NE SW 18-18-10

Lincoln County

Kemp, 1 Tanner ..... SE SE 28-17-5

Okfuskee County

Titus, 2 Frank ..... NW SW NW 25-11-8
Phillips, 2 Replogle ..... SW SE 2-11-10

Oklahoma County

I.T.I.O., 12 Trosper ..... SE NW SW 13-11-3w
British American, 3 Military ..... W½ NE SW 34-12-3w
Ptak, 1 Lyons ..... NW NE SW 34-12-3w
Thompson, 1 Carey ..... NW SE NW 34-12-3w

Okmulgee County

Doak, 2 Lowe ..... SE NE 16-10-11

Pawnee County

Jackson, 1 Dorrette ..... NW NW 2-18-6
Portable, 1 Messer ..... SE NW 31-23-5

Pittsburg County

Oklahoma Natural, 1 Pape ..... NE SW NW 8-7-18

Pontotoc County

Pine, 2 Jeter ..... SE SW SW 26-5-4
Patterson, 1 Roberts ..... SW NE NE 36-5-4
Henson, 6 Layne ..... NE SW NW 30-5-5
Garretson, 1 Roberts ..... NW SW 31-5-5
Ray, 1 Kearns ..... NE SW SE 21-3-5

OKLAHOMA COMPLETIONS

Caddo County

G. L. Pace, 1 C. A. Wray ..... NW SW SE 6-5-9w
Dry. T.D. 3,521 ft.
Rollons, 3 Hedlund ..... SE NE 11-5-9w
263 bbl., Wade 3,835 ft., oolitic 3,690 ft., T.D. 3,891 ft.
Stephens, 1 Frell ..... SW NE 21-6-10w
Dry. T.D. 3,704 ft.
Stephens, 1 Peppard ..... NE SW SW 22-6-10w
Est. 5 bbl., to abandon, T.D. 3,567 ft.
Stephens, 1 Brown ..... SW SE NW 28-6-10w
Dry. T.D. 5,951 ft.

Carter County

Gibson, 1 Griffin ..... SE NW SE 20-4s-2w
200 bbl., sand 1,997-2,014 ft., T.D. 2,044 ft.
Gibson, 3 Mertens ..... NW SE 20-4s-2w
121 bbl., old well drilled deeper from 1,939 to 1,947 ft.
Gibson, 1 Walker ..... NE SW NE 20-4s-2w
168 bbl., top pay 2,075 ft., T.D. 2,103 ft.
Shell, 18 Tubbee ..... SW NW NW 24-4s-3w
6½ bbl., old well drilled deeper from 1,106 to 1,151 ft.
J. D. Handcock et al, 1 McCluskey SE SW NW 8-1s-2w
Dry. T.D. 1,527 ft.

Cleveland County

Hamilton, 1 Myers ..... SW NE 22-9-2w
Dry. Viola 7,240 ft., sandy dolomite 7,580 ft., T.D. 7,600 ft.

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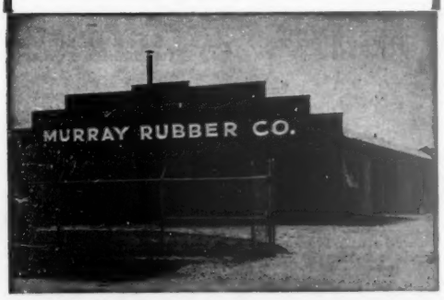

Coal County

Campbell, 1 Dillard ..... NE NW 25-3-11
2,000,000 cu. ft., sand 1,373-1,410 ft., T.D. 1,640 ft.

Creek County

Sunray, 1 Evans ..... NW NE NE 34-14-7
Dry. Prue 2,908 ft. (flowed 15 bbl. and 2,000,000 cu. ft.), Viola 4,010 ft., T.D. 4,061 ft.
Stekoll, 1 Morton ..... SW NW SW 35-14-10
Dry. Misener 3,193 ft., Wilcox 3,295 ft., T.D. 3,324 ft.
Bauer, 1 Ary ..... SW SE 31-16-7
Dry. Sand 1,065-1,122 ft., water, T.D. 1,122 ft.
Greer, 1 Morgan ..... NW SW SW 9-17-8
Dry. Layton 1,427 ft., slight show oil and gas, T.D. 1,450 ft.
J. E. Crosbie, 1 Wright ..... SE SE SW 17-17-8
Dry. T.D. 2,990 ft.
Jake Glenn et al, 2 McMillan ..... SE NW NW 26-18-7
2,000,000 cu. ft. gas, Jones 1,925 ft., old well drilled deeper from 575 to 1,945 ft.
Thomas, 2 Richard ..... SE SE 36-19-9
12 bbl., sand 1,890 ft., T.D. 1,926 ft.

Garvin County

Starr, 1 Shi ..... NW NE NE 8-4-3
Dry. T.D. 3,115 ft.

Jackson County

(Recently reported deepening operations)
Gulf, 1 Eley ..... SW SE SE 10-1-20w
9 bbl., granite wash, old well drilled deeper from 1,522 to 1,540 ft.
Kerbow & Brittain, 2 Dora ..... NE SW SE 11-1-20w
6 bbl., granite wash, old well drilled deeper from 1,390 to 1,514 ft.
Gulf, 1 Byrd ..... NW NW NW 14-1-20w
9 bbl., 12 hours, granite wash 1,513-1,678 ft., dolomite 1,678-1,709 ft., old well drilled deeper from 1,513 to 1,709 ft.
Gulf, 1 Enos ..... NW NE NE 16-1n-20w
104 bbl., granite wash, old well drilled deeper from 1,545 to 1,605 ft.
Cole et al, 1 Cole ..... SW SW SE 34-2-20w
17½ bbl., granite wash, old well drilled deeper from 1,460 to 1,495 ft.

Kiowa County

Tree, 1 Fowler ..... SE SE NW 10-7-18w
Dry. T.D. 1,681 ft.
Sinclair Prairie, 1 Watkins ..... SE NE NW 19-7-17w
Dry. T.D. 1,501 ft.
Argo, 1 Ratliff ..... SE NE NE 19-7-17w
228 bbl., White lime 917 ft., est. 10,000,000 to 15,000,000 cu. ft., T.D. 1,048 ft.

Lincoln County

Kemp, 1 Newsum ..... SW NW SE 26-17-6
2,500,000 cu. ft. gas, Layton 1,622-80 ft., T.D. 1,695 ft.

Okfuskee County

Iglehart, 1 Hildebrand ..... NE NW 19-10-11
Dry. Sand 1,425 ft. and 1,900 ft., T.D. 2,176 ft.

Oklahoma County

Sinclair, 10 Stamper ..... SE SW NW 30-11-2w
Pumped 35 bbl., Hoover 4,053-77 ft.
I.T.I.O., 30 Trosper Park ..... SE NW NW 13-11-3w
100 bbl., Hoover 4,030-80 ft., P.B. from 6,397 to 4,109 ft.
Phillips, 1 Ethel ..... E½ E½ NW 34-12-3w
820 bbl., Wilcox 6,439-6,574 ft.

Okmulgee County

F. J. Brady, 1-A Cornelius ..... NE SW SW 10-15-11
Dry. T.D. 2,927 ft.
M. Kirkland, 5 Green ..... SE NE NE 24-15-12
24 bbl., Bartlesville 1,536 ft., T.D. 1,611 ft.
C. Klingingsmith, 8-A O. Grayson ..... SE NW 35-16-11
25 bbl., Wilcox 2,780-86 ft.

Osage County

Reynolds, 2-A Ackley ..... SW SE NW SE 14-20-9
5 bbl., Layton 1,262-93 ft., T.D. 1,330 ft.
Sinclair Prairie, 8 Burgess ..... NE SW SW 32-31-13
5 bbl., Burgess 1,356 ft., old well drilled deeper from 1,163 to 1,386 ft.
Sagamore, 4-8 Osage ..... SW SE SE SE 25-28-10
281,000 cu. ft. gas, Wayside 822-35 ft.
Charles, 2 Osage ..... W½ NE NE SW 3-28-11
50 bbl., Wayside 897-926 ft., T.D. 941 ft.

Pawnee County

Broan, 1-A Marlow ..... NE SW 21-22-7
Dry. Sand 2,055 ft., T.D. 2,275 ft.

Payne County

W. H. Elson et al, 1 Murphy ..... SE SE NW 20-19-2
760 bbl., 19 hours with trace water, T.D. 4,871 ft., P.B. to 4,720 ft., perf. casing 4,552-85 ft.
Burke-Greis, 1 O'Keefe ..... W½ E½ NW 29-19-5
Dry. Wilcox 3,670-75 ft., second Wilcox 3,688 ft., T.D. 3,737 ft.

Pontotoc County

Hall, 1 Haskins ..... SE SE 26-5-4
100 bbl., Viola 2,475 ft., old well drilled deeper to 2,610 ft.
Senora, 1 Summers ..... SE NE SW 26-5-4
107 bbl., Viola 2,498 ft., T.D. 2,603 ft.
Pine, 4 Randall ..... NE NW 35-5-4
50 bbl., Viola 2,372 ft., T.D. 2,600 ft.
Superior, 2 Indian Royalty ..... NW NE NW 36-5-4
175 bbl., Viola 2,438 ft., old well drilled deeper from 2,621 to 2,662 ft.
J. F. Lloyd et al, 1 Auten ..... SE NE SW 36-5-6
Dry. T.D. 1,747 ft.
Huddleston, 1 Patterson ..... NE SE SW 20-5-8
15 bbl., sand 932 ft., T.D. 953 ft.

Pottawatomie County

Elko, 2 Hulsey ..... SE NE SW 26-7-4
80 bbl., dolomite 4,200-4,330 ft., T.D. 4,475 ft., P.B. to 4,330 ft.
Magnolia, 6 Youts ..... SE SW 20-7-5
74 bbl., Viola 3,947 ft., T.D. 4,140 ft.

Seminole County

Kerlyn, 1 School land ..... NW NW NW 16-7-5
10,000,000 cu. ft. gas, Cromwell 3,328-46 ft.
Winona, 3 Barkus ..... NW NE SE 18-7-6
60 bbl., Wilcox 4,194-4,215 ft.
Winona, 2 Tiger ..... NE NW SE 18-7-8
Dry. Viola 4,120 ft., Wilcox 4,248 ft., T.D. 4,285 ft.
Carter, 3 Hopper ..... NE SE NE 19-9-6
33 bbl., Wilcox 4,173 ft., old well drilled deeper from 4,215 to 4,228 ft.
Amerada, 1 Street ..... NE SW 3-10-5
215 bbl., Viola 4,579 ft., old well drilled deeper from 4,438 to 4,658 ft.
Droppleman, 1-B Gahagan ..... NE NW SE 3-11-8
Dry. Cromwell 3,589 ft., T.D. 3,629 ft.

Tillman County

Daly, 1 Bryan ..... SW NW 33-2s-17w
Dry. Show oil 3,133 ft., T.D. 4,514 ft.

Tulsa County

Hambley, 1-A Bean ..... SE SE 6-19-10
Dry. Layton 1,042-90 ft., T.D. 1,105 ft.
D. Klingingsmith, 1 S. Stevens ..... NW NW SE 18-16-12
Dry. T.D. 2,630 ft.

Washita County

Continental, 1 School land ..... NE 16-18-16w
Dry. T.D. 8,000 ft.

West Texas Fields

(Continued from Page 74)

Wasson field: Amon G. Carter, 7 Moore, 1,209 bbl., 4,898-5,046 ft.
Carl B. King, 1-A Brand, 386 bbl., 4,890-5,012 ft.

Hockley County

Slaughter field: Aweob Oil, 4-A Davis, 1,203 bbl., 4,922-5,006 ft.

Yoakum County

Wasson field: Aloco Oil, 4 Moore, 821 bbl., 5,060-5,233 ft.
Continental, 5 Stevens, 1,308 bbl., 4,950-5,124 ft.
Denver, 19 Whittenburg, 1,361 bbl., 4,948-5,120 ft.
Dunigan & Braheney, 1 Pharr, 946 bbl., 5,140-5,250 ft.
Honolulu, 15-804 Wilder, 1,407 bbl., 4,982-5,130 ft.
Humble, 7 Bennett, 1,135 bbl., 5,020-5,225 ft.
Humble, 30 Wooten, 620 bbl., 4,905-5,105 ft.
Mabee Oil & Gas, 1-D Willard, 1,475 bbl., 4,920-5,185 ft.
Plymouth, 1 Brownfield, dry at 6,270 ft.
Shell, 15-E Baumgart, 1,637 bbl., 4,860-5,160 ft.

WILDCAT OPERATIONS

Andrews County

Phillips, 1 Embar, 60 ft. from S line of Sec. 31, Blk. 10, University lands Sur. M.I.M.
Texas Pacific, 1-A Midland Farms, NE NW Sec. 1, Blk. 40, Twp. 1n, T.&P. Sur., 5,000-ft. test. S.D.O. 4,870 ft.

Brewster County

J. W. Quinn, Tr., 1 S. L. Strumburg, NW cor. SE Sec. 70, Blk. G, M.K.&T.E. Sur.; 2,500-ft. test. Prep. cmt. 10-in. csg at 990 ft.

Howard County

C. T. McLaughlin, 1 Pete Johnson, NE NE Sec. 34, Blk. 32, Twp. 1n, T.&P. Sur. S.D.O. 3,431 ft.; hit sulfur water.
M. L. Richards, 1 Thelma J. Cole, SE NW Sec. 12, Blk. 26, H.&T.C. Sur.; 3,500-ft. test. S.D.R. 2,768 ft.

Stonewall County

Shell, 1 J. D. Patterson, SW NW Sec. 393, Blk. D, H.&T.C. Sur.; Ordovician test. Drlg. 4,570 ft.
Shell, 1 Smith, Sec. 143, Blk. 1, H.&T.C. Sur. Top Mississippian at 6,007 ft.; top saturation at 6,015 ft. and drilled to T.D. 6,028 ft. in saturation; flwd. 280 bbl. oil in 24 hrs.; T.D. 6,085 ft.; well flwd. 68 B.O.P.D.; latest flow was 95 B.O. in 6 hrs. through casing; still testing.

Yoakum County

Sloan & Zook, 1 Waples-Platter, Sec. 565, Blk. 4, Gibson Sur. Drlg. 4,355 ft.; top anhydrite at 2,550 ft.; top Yates sand at 3,700 ft.; top Brown lime at 4,340 ft.

SOUTHEAST NEW MEXICO

HOBBS, N. M., Aug. 5.—New wildcat locations featured the week's developments in the Southeast New Mexico district as a total of four were staked in both Lea and Eddy counties. Also the new field discovery of last week in Eddy County was given its official gage.

Three of the new wildcats were in the central part of Eddy County. One was a ¼-mile southeast outpost to the field opened by Martin Yates on the McCall land. This wildcat was the same operator's No. 1 Williams, NE NW 25-18-26.

About 10 miles northeast of Carlsbad and in the approximate center of Eddy County, Black & Ratliff located No. 1 Simmons, SE NW 9-21-25. It is on the west of Lake Avalon.

The country's other new wildcat was staked by the A. & M. Petroleum Co. as its No. 2 State, NW SE 15-21-27. This site falls as a south offset to a dry hole drilled by the same company several years ago.

Lea County's new wildcat operation is Great Western Producers, 1-D State, SE SE 30-12-32. It is about 30 miles north of the Vacuum field and is in the little-explored northwestern part of Lea County.

The official completion of Eddy County's new discovery, Martin Yates, 1 McCall, gave the well a daily gage of 96 bbl. of oil flowing through ⅛-in. choke on tubing after shot. The pay section was drilled from 1,022 to 1,032 ft.

In the Penrose field, Gulf Oil Corp. has abandoned but not plugged its deep exploratory hole, No. 1 Drinkard. The well was temporarily quit at 3,850 ft., plugged back from a total depth of 4,500 ft. where sulfur water was found.

SOUTHEAST NEW MEXICO COMPLETIONS

Eddy County

Jackson Field

Premier Pet., 3-B Madden ..... SE SW 27-17-30
Flowed 160 bbl., shot, 3,233-50 ft.
Tallmadge, 6 State ..... SE SW 16-17-31
Dry. T.D. 2,943 ft.
Emperor Oil, 7 Puckett ..... NW SE 24-17-31
Flowed 55 bbl., open tubing, acid, 3,905-20 ft.

Loco Hills Field

Texas Trading, 1 State ..... SW NE 16-18-29
Flowed 125 bbl., shot 2,545-2,685 ft.
Brewer Drlg. Co., 1 Creek ..... NE NE 23-18-30
Dry. T.D. 3,653 ft.

Wildcat

Martin Yates, 1 McCall ..... SW SW 24-18-26
Flowed 96 bbl., shot, 1,022-32 ft.

Lea County

Maljamar Field

Maljamar, 3-B Baish ..... SW SE 27-17-32
Flowed 192 bbl., shot, 3,837-4,010 ft.
B. Cockburn, 11-B Baish ..... SW SE 27-17-32
Flowed 150 bbl., shot, 4,044-4,132 ft.
B. Cockburn, 14-B Baish ..... NW NW 27-17-32
Flowed 175 bbl., shot, 3,860-3,994 ft.
B. Cockburn, 15-B Baish ..... SW NW 28-17-32
Flowed 200 bbl., shot, 3,734-3,815 ft.
E. G. Woods, 1-B Simons ..... NE NE 30-17-32
Flowed 158 bbl., shot, 3,665-3,751 ft.

Vacuum Field

Magnolia, 70 State-Bridges ..... NW NE 14-17-34
Flowed 264 bbl., shot, 4,640-4,732 ft.
Magnolia, 71 State-Bridges ..... NE NW 14-17-34
Flowed 64 bbl., 11 hr., shot, 4,664-4,739 ft.
Magnolia, 67 State-Bridges ..... NW SW 14-17-34
Flowed 93 bbl., shot, 4,634-4,738 ft.
Phillips, 41 Santa Fe ..... NE NW 26-17-35
Flowed 374 bbl., 11 hr., natural. 4.482-4,562 ft.

Hardy Field

Continental, 3-A-36 State ..... SW SE 36-20-37
Flowed 103 bbl., 10 hr., shot, 3,640-3,741 ft.

Arrowhead Field

Humble, 3-M State ..... SE SE 18-22-37
Flowed 96 bbl., 8 hr., acid, 3,610-3,710 ft.

Penrose Field

Gulf, 1 Drinkard ..... NW SE 25-22-37
Dry but not plugged at 3,850 ft.; plugged back from 4,500 ft.

Clower, 2 Humble-State ..... SE NE 29-22-37
Flowed 96 bbl., shot, 3,537-3,681 ft.
Danglade & Clower, 1 Wortham ..... NW NE 11-22-37
Flowed 60 bbl., acid, 3,593-3,726 ft.
Rowan Drlg. Co., 1-C Elliott ..... SW NE 17-22-37
Flowed 65 bbl., acid, 3,650-3,704 ft.

Cooper Field

Continental, 1-B-12 Vaughn ..... SE NE 12-24-36
Flowed 30 bbl., 13 hr., shot, 3,462-3,560 ft.

Mattix Field

Stanolind, 6-A Myers ..... NW SE 22-24-37
Flowed 75 bbl., shot, 3,445-3,562 ft.

West Eunice Field

Wilson Oil, 5 Shell-State ..... NW NW 18-21-35
Pumped 75 bbl., shot, 3,760-3,800 ft.

SOUTHEAST NEW MEXICO ACTIVE WILDCATS

Eddy County

Jones & Yates, 1 Everest ..... NE SE 15-18-26
Rigging up rotary.
Trojan, 1 Grant ..... SW NE 33-20-25
T.D. 1,590 ft.; reaming csg. 1,050 ft.
Schumacker, 1 Levers ..... NE NE 33-16-29
Drlg. 2,808 ft.
J. B. Cowden, 1 State ..... SW SE 3-17-20
Between Root field and High Lonesome. T.D. 2,976 ft.; shut in at 2,100 ft.
Artesia Drlg. Co., 1 Hoffman ..... SE SE SE 14-17-24
Est. 1,250,000 cu. ft. at 938 ft.; S.D.R. 1,282 ft. (corrected).
M. Yates, 1 Williams ..... NE NW 25-18-26
First report.
Black & Ratliff, 1 Simmons ..... SE NW 9-21-25
First report.
A. & M. Pet., 2 State ..... NW SE 15-21-17
First report.

Lea County

Stanley & Weiner, 1 Saunders ..... NE NE 20-21-38
R.U.S.T. 1,628 ft.
Ventura Oil, 1 Lowe ..... SW SE 26-13s-37e
6,000-ft. test. Top anhydrite 2,190 ft. Top Yates sand 3,150 ft. Drlg. 4,609 ft.

Great Western Prod., 1-D State ..... SE SE 30-12-32
First report.

TEXAS PANHANDLE

AMARILLO, Tex., Aug. 5.—Completions continued about normal the past week, there being a total of 13 reported. Of the total, 12 were oil wells and one was a gasser. Gray County received four new oil wells, Hutchinson County seven oil wells, and Wheeler County one new oil well and the gas well.

TEXAS PANHANDLE COMPLETIONS
(24-hour gages)

Gray County

Amagray Oil, 1 Baily, 10 bbl., 2,440-2,513 ft.
Bell Oil & Gas, 7 Morse, 138 bbl., 2,545-90 ft.
I. T. I. O., 15 Smith, ⅝ bbl., 3,168-3,272 ft.
King Oil, 9 Simpson, 325 bbl., 3,230-80 ft.

Hutchinson County

Cree & Hoover, 7 Haile, 712 bbl., 2,955-3,019 ft.
Cree & Hoover and Dye, 5 Harvey, 350 bbl., 2,975-3,021 ft.
Cree & Hoover and Dye, 6 Harvey, 450 bbl., 2,984-3,035 ft.
Gibson Oil, 5 Harvey, 437 bbl., 2,915-3,015 ft.
Gulf, 14 Pitcher, 134 bbl., 3,113-87 ft.
Stanolind, 20 Haile, 177 bbl., 2,971-3,061 ft.
Stanolind, 12 Watkins, 377 bbl., 2,765-2,875 ft.

Wheeler County

Elbar Oil, 16 Noel, 184 bbl., 2,368-2,410 ft.
Gramp Oil, 1 Sammons, 22,600,000 cu. ft. gas, 2,093-2,170 ft.

WILDCAT OPERATIONS

Childress County

Texas, 1 P. B. Smith, NW NW Sec. 97, Blk. 9, H.&G.N. Sur.; 7,500-ft. contract. Drlg. 2,240 ft.

Hall County

Humble, 1 A. D. Weaver, SW NW Sec. 51, Blk. 1, S.P. Sur.; 7,500-ft. test. Drlg. 2,670 ft.

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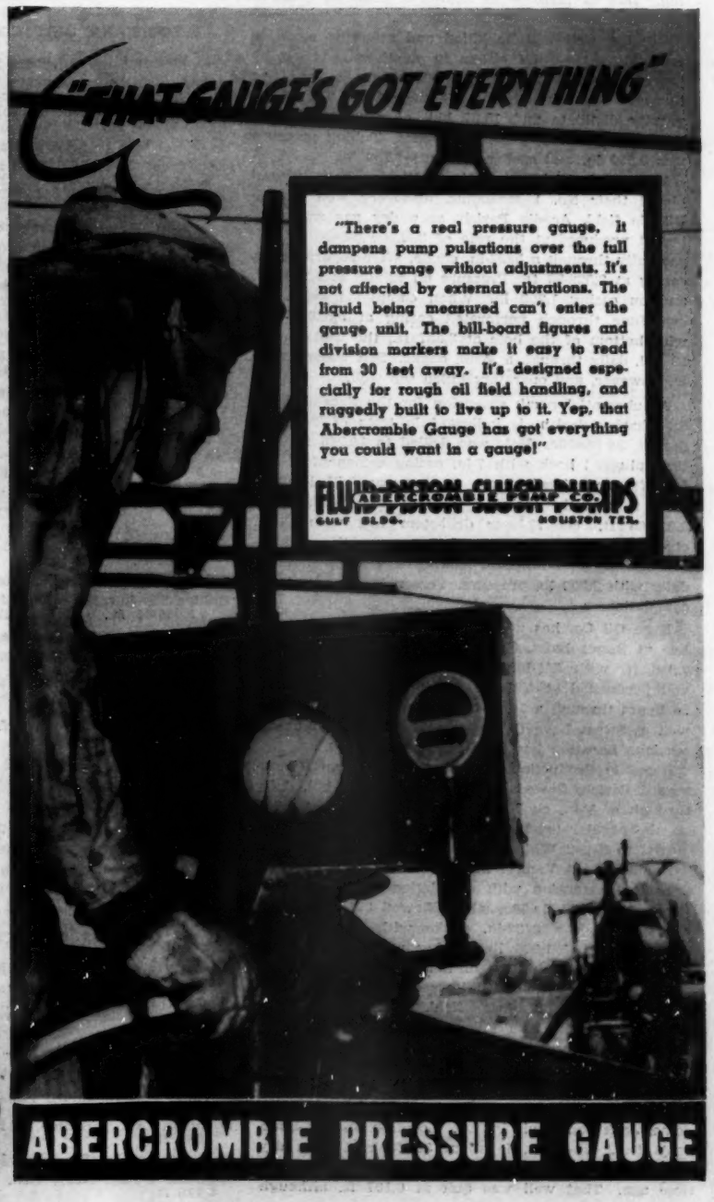
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West Cote Blanche New Pay; Paradis Field Extended

By
NEIL WILLIAMS

NEW ORLEANS, La., Aug. 5.—Texas Co. has opened a second and deeper sand in its West Cote Blanche field, St. Mary Parish, by the completion of its No. 2 State. The well, No. 2 State-West Cote Blanche Bay, plugged back from a total depth of 9,500 ft. to the sand at 5,025 ft., flowed 342 bbl. on 24-hour potential test through 11/64-in. choke. The discovery well, completed last March, is producing from a sand at 3,109-36 ft.

H. M. Naylor has worked over and recompleted his No. 1 Acadia Development Co., discovery well of the Mermentau area, Acadia Parish. Originally completed in a sand at 9,700-11 ft., where casing was perforated, the well was killed recently when it started making considerable salt water. Plugged back, it was perforated in a shallow sand at 9,115-25 ft., where it was brought in flowing about 5 bbl. of oil hourly.

Phillips, 1 Miami Corp., discovery well of the Little Chenier field, southern Cameron Parish, still is testing. Due to increase in salt-water flow in tests of sand perforated at 10,196-10,200 ft., it is considered likely the well will be killed and attempts made to recomplete the well either in another sand or by reperforating in the same horizon. On a late test through ¼-in. choke, the well made 80.67 bbl. of 46-gravity distillate and 15.37 bbl. of salt water, with 6,178,000 cu. ft. of gas in 24 hours. Tubing pressure was 3,350 lb. and casing pressure 1,750 lb.

Vincent & Welsh and E. J. Nicklos have recompleted their No. 1 McManus, discovery well of the Ritchie field, Acadia Parish, as a dry gas well. On test it produced at the rate of 300,000 cu. ft. of dry gas daily through a 5/32-in. choke, after reperforating casing at 3,528-33 ft. Pressure on tubing is 1,120 lb., and on casing 1,200 lb. When completed originally last June through perforated casing at 3,530-35 ft., with bottom of the hole at 3,537 ft., the well flowed 18 bbl. daily through a ⅛-in. choke. Salt water broke in, however, and operators killed the well.

A substantial north extension for the Paradis field, St. Charles Parish, is indicated in tests of Texas, 1 Sunset, 38-14s-20e. Hole was drilled to 11,246 ft., and then plugged back with 7-in. casing cemented at the 9,900-ft. producing horizon. Cement was drilled out to 9,967 ft. and the casing perforated with 90 holes at 9,922-65 ft. On 72-hour drill-stem test with ⅛-in. choke on bottom and ¼-in. choke on top the well began flowing in 7 minutes, making 48 bbl. of distillate daily with 3,200 lb. pressure. Screen has been set for completion.

Pure Oil Co. has a good well in its No. 18 Yount Lee at Sweet Lake, Cameron Parish. Total depth is 7,856 ft. with 5½-in. casing cemented at 6,450 ft. and perforated at 6,350-70 ft. It flowed 200 bbl. in 24 hours through a 14/64-in. choke. It is Pure's fifth well at Sweet Lake this year, and marks a slight extension. Location has been made for No. 19.

Republic Production, 19 Columbia, Bancroft, Beauregard Parish, flowed on potential test 190 bbl. daily through a ⅛-in. choke with bottom of hole at 7,300 ft., the regular producing horizon. The rig has been moved to No. 2 Whitman-Cline for a workover job.

Production at Venice, Plaquemines Parish, received a routine extension with completion of Tide Water, Buras Levee, 22-21s-30e, which flowed 321 bbl. in 24 hours through a 3/32-in. choke with tubing working pressure of 1,975 lb. Casing was perforated at 10,450-90 ft. with bottom of hole at 10,561 ft.

Tide Water has spudded its second test for its recently opened Delta Farms field, La Fourche Parish. This test, No. 2 Delta Farms, is a half mile southwest of the discovery well, which was completed last June from a sand at 11,290-11,305 ft.

Drilling has been started by Cheesman & Cranstan for a deep test on the south flank of the old Welsh dome, Jefferson Davis Parish. Location on the Bourgeois tract, 28-9s-5w, is about 50 ft. east of a dry hole drilled by Tide Water Associated Oil Co. some time ago. That well was quit at 6,107 ft. although it was reported to have had a sand around 5,100 ft. that showed some gas. So far, commercial production at Welsh has been confined to shallow sands over the top of the dome, but only scattered wildcatting has been done around the flanks.

Gulf, 1 State, wildcat on the Black Bay prospect, Plaquemines Parish, was spudded during the week, and 13⅜-in. surface casing was cemented at 2,023 ft. It now is making hole.

Gulf, 1-A Allen, south outpost of the Golden Meadow field, La Fourche Parish, was drilling late in the week below 11,200 ft. without picking up an appreciable show of oil or gas.

At Starks, Calcasieu Parish, W. T. Burton is moving rig from No. 2 Industrial, which was dry at 6,665 ft., to No. 2 Lutcher-Moore for another attempt to uncover deep flank production on the east side of the dome. The new test is 411 ft. north and 314 ft. west of the SW cor. 19-9s-12w.

LOUISIANA GULF COAST COMPLETIONS

Acadia Parish

Jennings field: Welch & Robinson, 1 Houssierre-Latrielle, pumped 55 bbl. net, 1,902 ft.
North Crowley field: Humble, 2 Reiners, perf. casing 8,585-90 ft., 468 bbl., ¼-in. choke.

Avoyelles Parish

Eola field: Lake & Bass, 3 Ritchie, perf. casing 8,546-66 ft., 350 bbl., ⅛-in. choke.
Lilly, 2 Dent, perf. casing 8,510-54 ft., 163 bbl., ⅛-in. choke.

Beauregard Parish

Bancroft field: Republic Prod., 19 Columbia, 190 bbl., ⅛-in. choke, 7,300 ft.

Calcasieu Parish

Gillis field: Union Sulphur, 12 Castle, perf. casing 7,002-05 ft., 300 bbl., 14/64-in. choke.

Cameron Parish

Sweet Lake field: Pure, 18 Yount-Lee, perf. casing 6,350-70 ft., 250 bbl., 14/64-in. choke.

Evangeline Parish

Ville Platte field: Amerada, 2 Roberie, perf. casing 10,100-15 ft., 209 bbl., ⅛-in. choke.
Continental, 8 Fontenot, 147 bbl., ⅛-in. choke, 9,015 ft.

Iberia Parish

New Iberia field: George Heils, 1-A Gulf fee, perf. casing 6,982-7,011 ft., 22 bbl., ⅛-in. choke.

Jefferson Parish

Lafitte field: Texas, 4 State-Bayou Norman, dry, T.D. 8,320 ft.

La Fourche Parish

Golden Meadow field: Berkshire, 15 Nicol, perf. casing 5,658-64 ft., 170 bbl., 12/64-in. choke.

Plaquemines Parish

Garden Island Bay field: Texas, 47 State, 497 bbl., ⅛-in. choke, T.D. 5,593 ft.
Grand Bay field: Gulf, 2-A Prairie, perf. casing 9,350-60 ft., 761 bbl., ¼-in. choke.
Venice field: Tide Water, 3 Manhattan, 7,348 ft., dry.
Tide Water, 8 Buras, perf. casing 10,450-90 ft., 321 bbl., 5/32-in. choke.

St. Martin Parish

Bayou Bouillon field: Transcontinental, 6 State, perf. casing 3,225-30 ft., 119 bbl., 13/64-in. choke.

St. Mary Parish

West Cote Blanche field: Texas, 2 State, 342 bbl., 11/64-in. choke, T.D. 5,025 ft.

Terrebonne Parish

Caillou Island field: Texas, 67 State, dry, 7,982 ft.
Four Isle field: L. L. & E., 1 State, dry, 1,068 ft.

LOUISIANA GULF COAST WILDCATS

Acadia Parish

Humble, 1 Leger, South Crowley, 22-10s-1e. Cmtd. 10¾-in. csg. 2,047 ft.; drlg. sh. 4,456 ft.
Humble, 3 Stakes, North Crowley, 33-8s-1e. Drlg. sh. 7,845 ft.

Calcasieu Parish

Burton, 2 Lutcher-Moore, Starks east flank, 19-9s-12w. Rig.
Burton, 1 Mayo, South Lake Charles Prospect, 8-11s-8w. Drlg. sdy. sh. 10,381 ft.
Hamman Exp., 1 Sabine, 3-11s-11w. Drlg. sh. and lime 7,385 ft.

Beauregard Parish

Atlantic, 1 Kay, Neale field north outpost. Drlg. sh. 6,710 ft.
Atlantic, 2 Whitmer, Neale field south outpost. Drlg. 1,200 ft.

Cameron Parish

Superior, 3 State-Calcasieu Lake, 1-14s-9w. Drlg. sh. 10,440 ft. (7-in. csg. at 9,545 ft.).
Superior, 3 Vincent, West Hackberry field southwest outpost, 13-12s-10w. Drlg. sh. 7,301 ft.
Stanolind, 22-B School Bd., West Hackberry field, 16-12s-10w, west deep sand discovery well. T.D. 10,010 ft.; 7-in. csg. cmtd. 9,430 ft.; fsg. stuck liner.

Iberia Parish

Plymouth, 1 LeBlanc, Bayou Pigeon field, east offset discovery well, 12-12s-10e. Drlg. sh. 6,900 ft.

Iberville Parish

Falcon-Seaboard, 1 Folse, Samstown area, 42-11s-13e. Coring 11,330 ft.
Humble, 2-B Wilbert, Bayou des Glaise dome. D.S. stuck 9,314 ft.
Superior, 1 Schwing, Bayou Blue, SW discovery well, 73-9s-10e. Drlg. sdtrkd. hole 8,348 ft.
Superior, 3 Schwing, Bayou Blue, NW discovery well, 74-9s-10e. Drlg. sh. and lime 4,075 ft.

Jefferson Parish

California, 1 Flemming, Barataria field, SE production, 15-15s-23e. Rig.

Jefferson Davis Parish

Cheeseman & Cranston, 1 Bourgeois, Welsh south flank, 28-9s-5e. Rig.
Union Sulphur, 1-A Calcasieu, China prospect, 2-8s-4w. Drlg. sh. 9,483 ft.

La Fourche Parish

Amerada, 1 Moore, Raceland, Sec. 34. Dredging canal to location.
Gulf, 1-A Allen, Golden Meadow field south outpost, 5-20s-22e. Drlg. sd. 11,167 ft.; no shows.
Gulf, 1 State-Gulf of Mexico, Bay Marchand dome, 23s-23e. Bldg. foundations.
Tide Water, 2 Delta Farms, Delta Farms field, SW discovery well, 1-17s-22e. Spudded.
Fohs, 12 State, Lake Long field outpost, 77-17s-19e. Moving in.

Plaquemines Parish

Gulf, 1-E Buras, West Bay prospect, 1-23s-30e. Drlg. sh. 10,574 ft.
Gulf, 1 State-Black Bay, 17s-17e. Cmtd. 13⅜-in. csg. 2,039 ft.
California, 1 Delta Minerals Unit 5, 2-15s-24e. T.D. 10,045 ft.; cmtd. 9⅝-in. csg. 7,996 ft.
California, 1 Delta Minerals Unit 7, 2-15s-24e. T.D. 10,807 ft.; P.B. 10,119 ft.; fishing survey tool.

Orleans Parish

Burton, 3 State-Lake Catherine, 11s-14e. Drlg. 1,605 ft.

Rapides Parish

Runter, 1 Clark, Le Compte area, 6-1n-1e. Rig.

St. Martin Parish

Superior, 1 Rycade-Atchafalaya, Bayou Bouillon area, 13-9s-8e. Loc. (first report).
Mar-Tex, 11 Darby, Spanish Lake prospect, 16-11s-6e. Loc. (first report).
Texas, 14 St. Martin, Plumb Bob area, 21-8s-7e. T.D. 8,603 ft.; P.B. 6,590 ft.; drlg. sidetracked hole 6,939 ft.

St. Mary Parish

Bateman, 1 Foster, 38-15s-9e. T.D. 1,901 ft.; cored sand 1,650 ft. with slight show.
Sun, 1 Belle Isle, Belle Isle Dome area, 6-18s-11e. T.D. 10,555 ft.; drlg. third sidetracked hole 9,900 ft.

St. Charles Parish

Texas, 1 State-Lake Salvadore, 16s-22e. Drlg. sh. 6,834 ft.

St. John the Baptist Parish

Pan American, 2 Mills, La Place field, 12-11s-7e. Drk.

Terrebonne Parish

Stanolind, 1 State, Bay Junop area, 35-21s-14e. Drlg. sh. 9,802 ft.
Texas, 5 State-Caillou Bay, Coon Point prospect, 23s-14e. Spudded.

Vermilion Parish

Humble, 1 School Bd., west outpost, Erath field, 16-13s-4e. Drlg. sh. 7,300 ft.
Fohs, 1 Mulvey frr., Gueydan field, south outpost, 34-11s-1w. Drlg. sh. 6,736 ft.

Tanker-Charter Rates Decline As Restrictions Tighten

NEW YORK, Aug. 6.—The decline of tanker-charter rates for coastwise voyages appear to have been hastened by more rigid restriction of American flag boat movements announced in Washington last week.

One tanker was chartered this week for August movement from the Texas Gulf Coast to north-of-Hatteras at 21 cents per barrel for gasoline, 22 cents for kerosene, and 23 cents for light fuel oil. The range of rates is approximately 65 per cent under the peak of 62 cents established early last spring.

Second Pay Sand Opened Up in Active Lolita Field

By NEIL WILLIAMS

HOUSTON, Tex., Aug. 5.—A second and deeper sand for the new Lolita field, Jackson County, has been opened with the completion by Magnolia Petroleum Co. of its No. 1 Four Way ranch, which flowed initially at the rate of 130 bbl. in 18 hours through ⅛-in. choke. Production is from sand in which casing was perforated at 6,395-98 ft. Total depth of hole is 6,399 ft. Tubing pressure during the gage period was 650 lb. with shut-in casing pressure 1,000 lb.

This well is only 992 ft. north of Wellington, 1 L. Ranch, discovery well of the field, which is producing from a 5,900-ft. sand, in which casing was perforated at 5,932-36 ft., and in which sand all other wells until now have been completed. The Magnolia well found only 4 ft. of this sand at 5,944-49 ft., and when it failed to make a producer at that level, the hole was carried deeper.

In the present sand, considerable trouble was experienced in completing, and a succession of squeeze attempts were required before a successful cementing job was effected. In the hole is 507 ft. of 5½-in. liner, seated on bottom and sealed into the 7-in. casing which was cemented at 5,892 ft. for testing of the discovery sand.

Opened last May, the Lolita field now has 11 producing wells, considering the original Wellington discovery area, and the Barnsdall Lazarus extension-well area, a mile west, as a single field. Although these two areas of development have been assumed to be a single pool, there now are indications that either two separate structures exist or that a major fault separates them. It has been found that the two areas, although producing from the sand horizon at approximately the same level, have different water levels, the level for the eastern, or original area, being around 5,934 ft. plus.

Six rigs are running in the Lolita field, including two by Magnolia Petroleum Co., and one each by Humble Oil & Refining Co., by Wellington Oil Co., Skelly Oil Co. and Barnsdall Oil Co. In addition, C. G. Glasscock is reported to have made location for a test on the R. T. Walker land in the G. H. Ewing league, a mile south of the field.

Sid W. Richardson has abandoned No. 1 Clement, a wildcat in the Stephen F. Austin Survey, in the Texana area, northwest of Lolita. This wildcat was drilled to 8,050 ft., where it was dry. Vicksburg was topped around 7,660-70 ft.

Barnsdall Oil Co. has started drilling in its No. 1 Tom Pritchett, another Lolita wildcat, located in the A. M. Clare Survey, about 6 miles northeast of the field. Surface casing was cemented at 1,353 ft., but plug already has been drilled out and hole now is being made.

West Ranch Field

Another and deeper sand also has been found in the West Ranch field, also in Jackson County, about 10 miles southwest of the Lolita field. The sand, found from 6,158 to 6,177 ft., was in Magnolia, 98-A West ranch, a deep exploratory test, located near the center of the field. Already oil production is being obtained from five different sands, all shallower, the deepest at 5,700 ft. In a 10-minute drill-stem test of the sand from 6,169-77 ft., with a ¼-in. choke on bottom and a ⅝-in. choke on top, a 95-lb. working pressure was recorded, and 300 ft. of oil and 270 ft. of oil-cut mud was recovered. Within the field no tests previously had been drilled below the 5,700-ft. sand, and over the center of the area none below the 5,100-ft. sand, the present shallowest producing horizon.

Magnolia completed two more producers for the field during the week, these being No. 2 Schuech and No. 92-A West ranch, both in the 5,700-ft. sand.

Location was made during the week for a Wilcox test to be drilled 4½ miles southeast of Anderson, Grimes County, by Laura C. Oil Co. (Nat Hunter and associates). The location is 1,650 ft. from the east line and 1,750 ft. from the south line of the Asa Thomas Survey. The test is on a 5,000-acre block centering around the Asa Thomas Survey, with Atlal Oil Co., Sunray Oil Co., Ralph Johnson, Cities Service, Gulf Oil Corp. and Stanolind Oil & Gas Co. among the principal acreage holders in the area. Contract has been let to T. A. Carlton Drilling Co., which has set up and now is starting hole.

Another interesting wildcat started during the week is Texas, 1 Kainer, 466 ft. from the west line and 3,370 ft. from the south line of the tract, in the John Brown Survey, 3 miles south of Algoa, Galveston County. It is projected to 10,000 ft., with the location on a line with a number of deep fields that have been opened the past year in Galveston and Brazoria County.

Rowan Field

Rowan & Nichols have made location and are rigging up for their second test in the Rowan field, Brazoria County, which they opened recently. The new test, No. 2 Hubbard, is 1,200 ft. northeast of the discovery well, being 467 ft. out of the northeast corner of the 80-acre tract, in the William Harris Survey, or 1,954 ft. northeast along the southeast line from the southwest corner of the survey, and 662 ft. northwest at right angles.

Humble Oil & Refining Co. is starting a second deep test for the Raccoon Bend field, Austin County. The new test (No. 7-Y Hardy), about 1½ miles north of a 9,000-ft. Wilcox test (No. 17-Y Woodley), now drilling below 6,600 ft., is at the north edge of production, in the William Smeathers Survey. It is projected to 7,500 ft.

Humble's wildcat test on Red Fish Reef in Galveston Bay, southeast of Seabrook, perforated casing at 9,118-25 ft., after drilling out cement plug to 9,127 ft., where it tested salt water, in another of a succession of tests that have been made at various levels, with bottom of hole at 9,448 ft. Perforations have been squeezed and tests will be continued at other depths.

Phillips Petroleum Co. has made location for another deep test at League City, Galveston County. The new location, No. 8 Bertha Lobit, is approximately 1,000 ft. south of production, being 416 ft. from the east line and 3,661 ft. from the north line of the tract, in the Austin League, Block 5. Among other new field-extension locations are Humble, 2 Adelia Cessna, Hardin field, Liberty County, 330 ft. from north and south lines and 1,067 ft. from the east line of the tract; Gulf, 12 Knowles, Anahuac field, Chambers County, being 466 ft. from the east line and 473 ft. from the south line of the tract.

At Lovells Lake, Jefferson County, Humble Oil & Refining Co. cored sand showing oil at a total depth of 7,725 ft. in its No. 3 Failor. A 20-minute drill-stem test was made at 7,702-25 ft. through ¼-in. chokes with working pressure of 9 lb. The test flowed fresh water and gas in 15 minutes, and at the close of the test 800 ft. of oil with a little sand and mud was recovered. Five and a half inch casing was cemented at 7,717 ft., preparatory to completion.

Texas Co. is testing No. 7-B Polk at Port Neches, Orange County, after installing flow valves for gas lift. Drilled to 5,739 ft., hole was plugged back to sand at 4,112 ft., where screen and liner was set, with 7-in. casing cemented. The well failed to flow after swabbing, and 1-in. tubing then was run inside the 2½-in. tubing.

Salt dome, 2 Ira Williams, James Grant Survey, Cotton Lake field, Chambers County, was swabbed dry after perforating casing in sand at 6,450-56 ft., where screen and liner were set. It previously had been swabbed dry in a test through perforations at 6,446-50 ft. The latter were squeezed and the casing reperforated lower. Total depth of hole is 6,516 ft., with cement drilled out to 6,475 ft. It is shut down for orders.

Humble, 4-D Lawrence, Cotton Lake field, flowed 32.12 bbl. of pipe-line oil in 24 hours through an ⅛-in. choke with tubing pressure of 250 lb. and casing pressure (shut in) 700 lb., and then went dead, and now is waiting order. Bottom of hole is 6,509 ft., where 3½-in. slotted pipe was set with blank liner sealed into the 7-in. casing.

TEXAS GULF COAST COMPLETIONS

Brazoria County

Old Ocean field: Harrison & Abercrombie, 8 Bernard, 10,581 ft., 284.40 bbl., ¼-in. choke.
Harrison & Abercrombie, 1 Wilson, 10,191 ft., 482.79 bbl., ¼-in. choke.
Harrison & Abercrombie-Stanolind, 1 Dailey-Chenault-Hughes, perf. casing 10,065-10,110 ft., 414.18 bbl., ¼-in. choke.

Fort Bend County

Big Creek field: Hatton, 2 Cockrell, 1,042 ft., 9.66 bbl., pumping.
Thompson field: Gulf, 17-B Wolters, 5,390-5,410 ft., 146 bbl., ½-in. choke.
Quintana, 15 Wolters, perf. casing 5,394-5,405 ft., 113.68 bbl., ½-in. choke.
North Thompson field: Loffland, 2 State-Brazos River, perf. casing 7,883-7,902 ft., 927.58 bbl., ¼-in. choke.

Hardin County

Silsbee field: Republic Prod., 3 Winter, 6,950 ft., 585 bbl., ¼-in. choke.

Harris County

Goose Creek: Newton & Lille, 1 Busch, 2,569 ft., 28 bbl. net, pumping.
Wildcat: Steger, 1 Trahan, 1,103 ft., dry.

Jefferson County

South China field: Pan American, 1 Neal, 7,889 ft., 147.55 bbl. net, ½-in. choke.
Spindletop field: Stanolind, 154 McFaddin, 3,921 ft., dry.

Liberty County

Esperson field: Massart, 1 Kay, 4,307 ft., dry.

Jackson County

Lolita field: Humble 1-A L ranch, 5,944 ft., 19.93 bbl. per hour, ¼-in. choke.
Magnolia, 1 Henshaw, perf. casing 5,928-31 ft., 87 bbl. 12 hours, 7/64-in. choke.
Skelly, 1 Mitchell, 5,929 ft., 312 bbl., ⅛-in. choke.
Magnolia, 1 Four Way ranch, perf. casing 6,395½-98½ ft., 130 bbl. 18 hours, ½-in. choke.
West Ranch field: Magnolia, 2 Schuech, perf. casing 5,759-67 ft., 179 bbl., 2 hours, ⅛-in. choke.
Magnolia, 92-A West ranch, perf. casing 5,758-68 ft., 184 bbl., 8 hours, ¼-in. choke.
Wildcat: Sid Richardson, 1 Clement, 8,050 ft., dry.

Polk County

Segno field: Gulf, 36 Wing, 8,127 ft., 170.38 bbl., ¼-in. choke.

Wharton County

Boling field: Floyd, 11 Texas Gulf Sulphur, 269 ft., 36 bbl., pumping.

TEXAS GULF COAST WILDCATS

Brazoria County

Humble, 3 Bassett Blakely, Danbury dome. T.D. 8,058 ft., T.D. second sidetracked hole 7,072 ft. Sand showing oil 7,051-72 ft. Trying to make drill-stem test.
Rowan Drilling, 2 Hubbard, Rowan field outpost. Derrick. First report.

Colorado County

Shell, 2 Plow Realty, Obenhaus Survey, Sheridan area. Spudded.

Chambers County

Texas, 1 State-Galveston Bay, Section 237, 3 miles E. Bolivar in Galveston Bay. Rigging up.

Grimes County

Laura C Oil, 1 Hertmaniak, Asa Thomas Survey. Wilcox test. Spudded.

Harris County

Humble, 1 Furr, S. Singleton Survey. Cmtd. 10¾-in. casing 2,474 ft.
Goldston, 1 Josey, Ogburn area, W.C.R.R. Sur. 1225. Cored sand 6,931-41 ft.
Continental, 1 Sweeny, Ogburn area. Cmtd. 10¾-in. csg. 860 ft. Drlg. plug.
Frazier, 1 Johnson, Whitney Britton Survey, Mount Houston area. Cored sand and shale 8,080-25 ft.
Rayzor, 1 Robertson, Ritson Morris Survey, Seabrook area. T.D. 1,125 ft., cmtd. 10¾-in. csg. 1,114 ft.
Landreth & Keystone, 2 S-K-B, Section 24, W.C.R.R. Survey, North Houston area. Spudded.

Liberty County

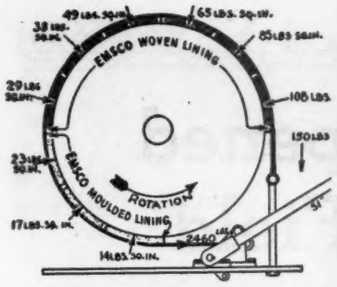
Gulf, 1-A Phoenix, deep test, Hull field, southeast flank. Cmtd. 13⅜-in. csg. 1,989 ft., drld. plug.
Stanolind, 3 Seabury, I.&G.N. Survey, Section 7, Marths area. Rig.

Jackson County

Barnsdall, 1 Pritchell, A. N. Clare Survey. Cmtd. 9⅝-in csg. 1,390 ft. T.D. 1,428 ft. Drld. plug.
Stanolind, 1 American Nat. Realty, Richard Grimes Survey.
Williams, 1 Montex, I.&G.N. Survey, Section 2. Drlg. sh. 5,789 ft.
Glasscock, 1 Walker, Geo. Ewing league, 1 mile S. Lolita production. Derrick.
Texas, 1 Tunison, M. M. Survey, Ganado area. Derrick.

San Jacinto County

Harrison & Abercrombie, 1 Sun fee, Wm. Hayes Survey, Shepherd area. Cmtd. 10¾-in. surface casing. Drlg. 2,235 ft. sh.



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Among the Drilling

HENRY DeARMAN, Houston drilling contractor, is approaching contract depth of 7,500 ft. in J. W. Richardson's No. 1 Maggie Berry, Jefferson Davis County wildcat in Mississippi.

VIERSEN Drilling Co., of Okmulgee, Okla., is drilling below surface casing on a Madison County, Mississippi, wildcat, Ralph A. Johnston's No. 1 Locke. The test, located southeast of Pickens, is considered one of the most important currently active in the state. Viersen is also rigged up on the W. O. Allen No. 1 Tom Henry, a Warren County, Mississippi, wildcat located between Vicksburg and Jackson.

B. A. DUFFY, operator and contractor of Abilene, together with Ce-Beth Oil Co., will drill a 1,000-ft. wildcat test on the city of Abilene's property near the shores of Lake Abilene in Taylor County, West Central Texas. The contractor is moving in material for the wildcat, which is on a 1,600-acre block.

LOFFLAND BROS. Co., of Tulsa, is drilling an important South Mississippi wildcat in Perry County for Fohs Oil Co. The test is below 6,000 ft.

M. J. DELANEY, Dallas drilling contractor, is drilling an outpost test to the Pickens field, Yazoo County, Mississippi, for Exchange Oil Co.

PARKER Drilling Co., of Tulsa, is drilling for Exchange Oil Co. and Kingwood Oil Co. in a south outpost test to the Pickens field, Yazoo County, Mississippi.

CROSBY Drilling Co., in partnership with T. G. Markley, is completing as a pumper its No. 2 Baist Cooperage, Bayou Blue field, Iberville Parish, coastal Louisiana. The well has a sand at 1,200-23 ft. It flowed for a short time.

SUMMITT Drilling Co., Tulsa, has been awarded contract for a long-planned wildcat test in the Park Springs area of Wise County, North Texas district. Staked by Britt Cranfill, Wichita Falls, and C. R. Rogers, a North Texas operator, the test is No. 1 McKay, located in the center of the south 80 acres of NW Section 8, Falls County School Lands Survey, just south of the Montague County line. Contract depth is 7,500 ft. and the wildcat will be the southernmost test yet drilled in the Fort Worth basin.

RED IRON Drilling Co., Shreveport, La., has two rigs active in Mississippi. In Madison County Stanolind Oil & Gas Co.'s No. 1 Higgason, important wildcat, is drilling below 5,000 ft.; and in Neshoba County, in East Central Mississippi, the J. P. Evans No. 1 Mary Oliver has surface casing set.

CARL B. KING Drilling Co. has finished a large well for Gulf Oil Corp. in the Arrowhead field of Lea County, New Mexico. It is No. 3-C Leonard, which made 329 bbl. of oil in 13 hours with 995,000 cu. ft. of gas. The flow was natural and through open tubing from pay drilled from 3,745 to 3,840 ft.

ROWAN Drilling Co., under contract for Amerada Petroleum Corp., has finished a 218-bbl. well in the Arrowhead field of Lea County, New Mexico. It is No. 2-BA State, which made the flow on natural gage from pay drilled from 3,673 to 3,724 ft.

IRON Drilling Co. announces the letting of a contract by the Transwestern Oil Co. of San Antonio, Tex., for the drilling of a deep wildcat of 5,000 ft. in Barber County, Kansas. The location is Section 35-30s-14w.

T. A. CARLTON Drilling Co. has been assigned contract to drill a Wilcox sand test for John Mayo and Frank Micheux east of New Ulm, in Austin County, Texas Gulf Coast. The same contractor has contract for the Laura C Oil Co. Wilcox test now getting started southeast of Anderson, Grimes County, also on the Texas coast.

COMPLETE Oil Well Service, Inc., is completing as a producing well a wildcat which it drilled for itself about a mile east of production of the Rincon field. This important extension well has sand at 4,606-20 ft. Casing was cemented on the sand and now has been perforated, and the well is reported flowing.

ROWAN & HOPE, of San Antonio, Tex., are drilling a Yazoo County wildcat in Mississippi, about 1 mile southeast of Pickens field. The test, in which they share an interest with other operators, is drilling below surface casing.

JACK FRAZIER has reached contract depth of 8,500 ft. in a wildcat he has drilled for himself and associates in the Mount Houston area, north of Houston, Tex. At latest report he was making electrical survey of the hole, prior to decision as

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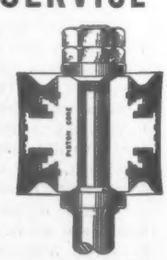

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to whether to abandon the hole or attempt tests of several showings which were had by the test.

PATEL DRILLERS, Inc., has reached a depth of 1,611 ft. in a wildcat it is drilling for itself in Jim Hogg County, Texas, about 5 miles northwest of Randado. The well is shut down.

ROWAN Drilling Co. has moved its rig from the discovery well of the new Rowan field, Brazoria County, Texas coast, to location for a second test approximately 1,200 ft. northeast on the same tract. Drilling is due to begin shortly.

UNION DRILLING CO. has been awarded contract for drilling Sun Oil Co.'s No. 1 Kidder, a wildcat in NW NW NW 8-3n-9w, Rutland Township, Barry County, Michigan. The test is reportedly projected to the Monroe and possibly to the Trenton beds.

FALCON-SEABOARD Drilling Co. has reached a total depth below 11,400 ft. in its No. 1 Fose, a wildcat being drilled on a Gulf Refining Co. farmout in the Samstown area, Iberville Parish, Louisiana. This contractor, within the past year, has undertaken to drill a number of deep tests to its own account.

GEORGE P. LIVERMOORE, drilling contractor and independent operator of Odessa, Tex., and Lou Stogner of Fort Worth, Tex., have spudded in their new test in extreme northwestern Lea County, New Mexico. The well is their No. 1-D State, located in SW SE 30-12s-32e, and is a west offset to a test recently abandoned by Stogner & Weiner when hole was junked at a total depth of 1,373 ft. The test is 150 ft. west of the No. 1 State, and is 660 ft. from the south and 810 ft. from the east lines.

TWIN DRILLING CO. has been awarded contract for drilling Smith Petroleum Co.'s No. 1 Stone in Adams Township, Arenac County, Michigan, a northeast outpost to a new discovery of Rayburn & Major. The new location is 1,980 ft. north and east of the Rayburn & Major's No. 1 Yenior, the new discovery which late last week tested 1,981 bbl. in 24 hours after 1,000 gal. of acid.

LOFFLAND BROTHERS has started drilling for J. D. Rayzor on the latter's deep wildcat test on the Robertson tract in the Ritson Morris Survey, in the Seabrook area of Harris County, on the west side of Galveston Bay. At latest report it was drilling below 2,000 ft.

ZEPHYR DRILLING CO., Tulsa, has dug pits for its No. 1 Morrell, a wildcat east of the old Newkirk pool in SW SW SE 8-28n-4e, Kay County, Oklahoma. The test is staked on a recently assembled block including some state school-land leases.

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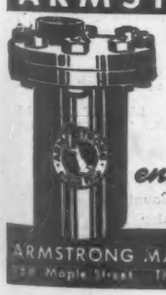

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Joaquin Area Tests May Prove Large Structure in E. Texas

By GEORGE WEBER

SHREVEPORT, La., Aug. 5.—A quiet week in the Ark-La-Tex district brought no developments of importance. Deep tests and wildcats are being watched in many sectors. In North Louisiana, a south gas extension to Olla adds interest to that field. South Arkansas showed generally disappointing results in two important tests.

NORTH LOUISIANA

The La Salle Parish wildcat, Peterson Petroleum Corp., 1 Tremont Lumber Co., located in NE SW 25-9-2e, has opened another gas area south of Olla. During the past week operators set 7-in. casing at 3,286 ft. and perforated at 3,160-63 ft. where an oil show had been encountered. The test made an estimated ten million cubic feet of gas at a rock pressure of 1,325 lb. Operators have killed the well and will install heavier connections before proceeding to test other horizons. Oil shows were reported at 3,038-42 ft. and 3,160-66 ft., with salt-water sands underlying the two zones at 3,042-60 ft. and 3,166-95 ft. The Peterson test is located 5 miles south of the oil and gas-producing area south of Olla, and about 7 miles south of Olla proper. This well extends gas production in the Wilcox along a 13-mile strip, including the north gas-extension area recently opened to Olla.

In Claiborne Parish the deep Haynesville test, Ohio Oil, 15 Taylor, is drilling below 8,243 ft. The Cotton Valley formation was topped at about 7,220 ft. and the Bodcaw sand at 7,654 ft. The latter body was the sand of which most was expected in the deep wildcat, but when it failed to show oil, operators continued to deepen. By the first of the coming week the test should be in the section containing the Sexton and Roseberry sands, which have been opened to production in the Shongaloo field 9 miles southwest. The Cotton Valley formation is somewhat thinner at Haynesville, so the two prospective producing sands should be encountered at about 8,400-8,500 ft. If nothing of interest is found in these sands operators are expected to continue to the Buckner and Smackover lime formations.

Also in Claiborne Parish Union Producing Co. is drilling below 3,220 ft. in No. 1-A Meadows, located 2 miles north of Lisbon.

NORTH LOUISIANA COMPLETIONS

Caddo—Caddo Parish

C. W. Crockett, 2 Tobin et al.....11-20-16
Junked and abandoned, T.D. 920 ft.
Davis & Hart, 1-A Muslow..... 9-20-15
Dry, T.D. 1,505 ft.
A. R. Hancock, 8 S. O. Co. fee.....18-21-15
Dry, T.D. 1,061 ft.
Magnolia, 23 Doan-Thigpen..... 6-20-15
47 bbl. salt water, T.D. 1,500 ft.
Texas, 25-B Noel.....14-21-15
Pumping 168 bbl. oil, 40 bbl. salt water, T.D. 1,695 ft.

Wildcat—Caddo Parish

R. B. Hollandsworth, 1 Stentell..S½ NW SW 35-20-14
Dry, T.D. 2,502 ft.

Wildcat—Catahoula Parish

H. L. Hunt, 1-A La. Central.....SW SW 26-10-6e
Dry, electric-log tops: Cockfield 900 ft., Cook Mountain 1,522 ft., Sparta 1,700 ft., Cane River 2,551 ft., Wilcox 2,898 ft.

Olla—La Salle Parish

Arkansas Fuel Oil, 1 Gandy unit, 606 ft. N, 662 ft. E.....SW cor. SE 12-10-2e
144 bbl., 20/64-in. choke, casing pressure 220 lb., perf. 2,208-24 ft., T.D. 2,256 ft.
Placid, 1 Hopkins-La. Central unit ...NE SE 12-10-2e
120 bbl., 12/64-in. choke, 5 per cent b.s. and w., perf. 2,188-2,204 ft. and 2,212-18 ft., T.D. 2,385 ft.

Monroe—Ouachita Parish

Interstate Nat. Gas, 99 fee.....44-19-3e
3,472,000 cu. ft. gas, rock pressure 900 lb., T.D. 2,194 ft.

Converse—Sabine Parish

George L. Pace, 5 De Soto .....NE NE SE 27-10-13
Pumping 15 bbl. oil, 15 bbl. salt water, T.D. 1,972 ft.

NORTH LOUISIANA WILDCATS

Bienville Parish

Union Prod., 1 Havis unit.....
150 ft. SE cor. NW NW 11-16-10
Ran Schlumberger, top Pettit 5,250 ft., Travis Peak 5,578 ft., no porosity, arranging to set 7-in. casing 5,795 ft.

Bossier Parish

H. M. Harrell et al, 1 Porter.....
1,370 ft. W, 1,276 ft. S, NE cor. 20-17-11
Derrick.
L. K. McGuffin, 1 Tomlinson.....
990 ft. S, 600 ft. E, C 16-18-11
T.D. 1,195 ft., top Nacatoch 1,167 ft., S.D. 1,220 ft.
R. L. Reese et al, 1 Bellevue Ld. Co. .....
170 ft. E, 365 ft. N, 27-20-11
Cored sd. slight S.O. 2,888-98 ft., D.S.T. 2,902-13 ft., tested S.W., S.D.W.O., 2,955 ft.

Caddo Parish

J. M. Conner, 1-A Williams.....
334 ft. N, 986 ft. W, SE cor. NE 3-15-15
Coring 6,101 ft.
L. L. Sugar, 1-A Muslow.....31-21-15
Testing 1,580 ft.
Gehrig, 1 Colored Methodist Church.....
637 ft. N, 1,826 ft. E, SW cor. 35-18-14
Rigging up.

Claiborne Parish

Ohio, 15 G. W. Taylor.....
Acct. 1, 100 ft. S and W, C SE 15-23-8
Top Bodcaw sd. 7,654 ft., ran electrical survey, drilling shale and sand 8,243 ft.
Union Prod., 1-A Meadows et al.....C NE 18-21-4
16-in. casing 326 ft., drilling 3,217 ft.

De Soto Parish

R. C. Swayles, 1 Jackson.....
330 ft. E, 200 ft. N, SW cor. NW SW 36-12-14
Derrick.
Union Prod., 1-B M. E. Garrett.....
1,320 ft. N, 1,980 ft. W, SE cor. 33-12-16
Rigging up.

Franklin Parish

J. B. White et al, 1 Dailey.....
1,170 ft. N, 2,490 ft. W, SE cor. 1-11-6
S.D., W.O., no show 3,016 ft.

Grant Parish

Peterson Pet. Corp., 1 Swope.....
182 ft. N, 85 ft. W, SE cor. NW SE 18-9-1e
Pumped salt water, W.O. 1,609 ft.

La Salle Parish

O. K. Allen, Jr., et al, 1 Breedlove, SW NE 32-11-3e
Top Wilcox 1,600 ft., T.D. 2,540 ft., S.D., W.O.
Arkansas Fuel Oil, 1-C Goodpine.....
719 ft. S, 663 ft. W, NE cor. 24-10-2e
Set 7-in. casing 2,242 ft., oil sand 2,197-2,216 ft. and 2,224-39 ft., top Wilcox 1,567 ft.
Arkansas Fuel Oil, 1 Kees.....
609 ft. N, 667 ft. E, SW cor. NE SW 7-10-3e
Drilling sand and shale 577 ft.
H. C. Cummings, 1 Urania.....C NW NE 2-10-2e
All sands salt water, S.D. 2,550 ft.
Peterson Pet. Corp., 1 Tremont Lbr. NE SW 25-9-2e
T.D. 4,020 ft., set 7-in. casing 3,285 ft., sand 3,038-40 ft., S.O.; 3,040-60 ft., S.S.W.; 3,160-65 ft., S.O.; 3,165-95 ft., S.W.; perf. 3,160-63 ft., tested est. 10,000,000 cu. ft. gas, rock pressure 1,325 lb., killed well and will install heavier connections, W.O. 4,020 ft.

Red River Parish

Thornton & La Croix, 1 Prudential Life Ins. Co. .....
2,160 ft. S, 440 ft. E, NW cor. 31-11-9
Drilling 764 ft.

Sabine Parish

Shell, 1 Pickering Lbr. Co. .....NE SW 30-4-12
Drilling blue shale 6,117 ft.

Webster Parish

Hunt Oil, 2 Scott.....
1,980 ft. N, 50 ft. E, SW cor. 20-21-9
Top Bodcaw 8,633 ft., cored 8,636-48 ft., received 11 ft. oil sand, top D sand 8,540 ft., salt water, coring 8,648 ft.
Magnolia, 1 Grant Wadley.....
400 ft. S, 940 ft. E, NW cor. 18-21-9
Rigging up.
Midstates, 1 Giddens unit.....
282 ft. N and W, SW NE 30-21-9
Drilling hard sandy shale 8,116 ft.
Hunt Oil, 1 Crawford et al. SE cor. NW SE 30-21-10
Set 13⅜-in. casing 615 ft., drilling anhydrite 4,487 ft.

FIRST REPORTS

Caddo—Caddo Parish

Magnolia, 24 Doan-Thigpen 6-20-15
S. Reile, 1 R. Godfrey.....1-20-16
Stanolind, 134 Dillon.....13-21-15

Lisbon—Claiborne Parish

J. D. Caruthers, Tr., 1 Simmons unit.....SW 2-20-5

Sugar Creek—Claiborne Parish

Haynes B. Owenby, 2 L. E. Ozley fee.....33-20-5

Monroe—Morehouse Parish

United Carbon, 2 Mrs. H. Anderson.....41-21-5

Bull Bayou—Red River Parish

Texas, 37-B Brinkerhoff.....30-13-10

SOUTH ARKANSAS

Continued failure to test commercial oil brought abandonment of South Arkansas' current Smackover lime wildcat, Standard Oil Co. of Louisiana, 1 Zimmerman. The Union County test, located east of Schuler, was well regarded when oil shows were encountered in the formations above the Buckner, but salt water was found in the oolitic porous member at the top of the Smackover lime. Operators plugged back to test upper shows in the Cotton Valley formation. Meeting with no success, they shot and recovered some casing and abandoned the test at 6,767 ft.

At Fouke, newly discovered Miller County field, the field continued to drop in importance on the basis of current drilling. Standard Oil, 3 Sturgis had not yet encountered the pay sand in the Paluxy at 3,707 ft. late last week, although it was expected at about 3,600 ft. The test is located southeast of Nos. 1 and 2.

In Lafayette County Atlantic Refining Co. continued drilling an offset test to the McKamie discovery, and to the north J. & J. Oil Corp. cored 2,266-83 ft. and was last reported awaiting orders in the No. 1 Barnes wildcat.

ARKANSAS COMPLETIONS

Atlanta—Columbia County

Tide Water Asso. and Seaboard, 1 E. N. Hutcheson, 330 ft. S, 1,320 ft. W, NE cor. SE 16-18-19
150 bbl., tubing pressure 1,500 lb., casing pressure 1,825 lb., 5½-in. casing 8,212 ft., T.D. 8,219 ft.

Wildcat—Hot Springs County

John H. James, Tr., 1 Sturgess Lbr. SW SW SE 24-6-18
Dry, T.D. 1,059 ft.

Wildcat—Union County

Standard of La., 1 D. A. Zimmerman.....
660 ft. SE SE SE 29-18s-16w
Salt water, T.D. 6,767 ft.

Urbana—Union County

Marine Oil, 12-A Thompson.....SW SE 3-18-13
5,000,000 cu. ft. gas, ¼-in. choke, tubing pressure 1,275 lb., casing pressure 1,300 lb., T.D. 3,255 ft.

ARKANSAS WILDCATS

Clark County

J. H. Coker and J. P. Grieves, 1 C. McClellan.....
NW NW SE 11-20-21
S.D. 1,498 ft., red sandy shale.
W. S. King, 1 N. Ross.....
640 ft. S, 359 ft. W, NE cor. S½ SW 3-10-21
S.D. 2,280 ft.

Columbia County

Berkshire, 1 H. C. Couch, C N 30 ac., SE SE 22-17-20
Drilling red and green shale 4,954 ft.
G. S. Hammond et al, 1 S. T. Crone ..SE SW 9-16-22
Rigging up.
McAlester Fuel, 1 K. J. Sayers.....NW NE 15-18-22
Set 9⅝-in. casing 4,136 ft., drilling red and green shale 4,665 ft.
Placid Oil, 2-B J. W. Booth.....SW SW 20-17-19
Set 9⅝-in. casing 2,195 ft., drilling red and green shale 4,470 ft.

Lafayette County

Atlantic, 2 Bodcaw Lbr. Co. .....SW SE 29-17-23
Tops: Midway 1,020 ft., Nacatoch 1,750 ft., Annona 2,495 ft., Blossom 2,635 ft., set 9⅝-in. casing 4,205 ft., W.O.C.
J. & J. Oil, 1 J. E. Barnes .....
345 ft. W, 615 ft. N, SE cor. 4-16-24
Cored 2,266-83 ft., sandy marl, W.O.

Lonoke County

Lunnon, Howell & Ford, 1 City of Cabot.....
NE cor. Lot 1, Block 6, 18-4n-9w
Arranging to set casing to test 1,283 ft.

Miller County

Standard of La., 3 Sturgis .....NW SE SE 1-17-27
Drilling red shale 3,707 ft.

Saline County

Tedford Drlg. Co. et al, 1 Cunningham.....
SW NE 31-3s-15w
10-in. casing 331 ft.
Tedford Drlg. Co., 1 Williams.....
1,295 ft. SE of No. 1 Cunningham, 31-3s-15w
Cet 6-in. casing 294 ft., W.O.

Union County

Fohs Oil, 2 C. T. Grace.....NW SW SE 31-17-14
Tested oil through perforations at 3,151-57 ft., arranging to complete.
Sam Sebersky, 1-B G. N. Jerry.....SW SW 21-17-14
T.D. 2,916 ft., D.S.T. 2,898-2,916 ft., tested mud, no show oil, W.O. 2,940 ft.

FIRST REPORTS

Magnolia—Columbia County

Norhandle-Goldston, 1 C. E. Crumpler.....
C S 30 ac., SE SE 18-17-19

Sturgis—Miller County

Gray & Wolfe, 1 D. L. Friday....NW NE SW 6-17-26

Urbana—Union County

Marine Oil, 1 G. W. Brown.....10-18-13

EAST TEXAS

Interest is growing in the Joaquin area, where Union Producing Co. has two tests. The Joaquin field is believed to be a large structure, extending over several hundred acres in Shelby County, Texas, and De Soto Parish, Louisiana. In 1938 the Hunter Co. completed No. 1 Parker in 26-12-16, about 4 miles northeast of the Joaquin gas-condensate field. The No. 1 Parker made 4,250,000 cu. ft. of gas and was shut in, at total depth of 5,187 ft. Geologists familiar with the area consider that the No. 1 Parker was producing from the same pay as the Joaquin wells, in the Rodessa zone of the lower Glen Rose formation.

Both of the Union Producing Co.'s current tests are included in the area generally considered as the Joaquin structure. The No. 1 Garrett in Shelby County is about 1 mile southeast of Joaquin and the No. 1-B Garrett in De Soto Parish is located between the Joaquin field and the Hunter well, about 2 miles from each. The latter test is just rigging up, while the Shelby County test is coring below 4,820 ft. and approaching the pay. Both tests will be watched with considerable interest. Union Producing is drilling the tests on blocks of the Shell Oil Co., Inc., on an agreement to take gas production, if such is discovered, and to turn back to Shell, any oil producers, for the price of drilling the tests.

Shell Oil Co., Inc., is drilling below 6,117 ft. in black shale in the No. 1 Pickering Lumber Co. wildcat, a very tight test in Sabine Parish, south of the Joaquin area.

To the north in Caddo Parish, J. M. Conner is coring below 6,100 ft. in No. 1-A Williams, in 3-15-15, near Spring Ridge.

EAST TEXAS BORDER WILDCATS

Harrison County

Arkansas-Louisiana Gas, 1-D Abney, James Shandoin Sur., set 13⅜-in. casing 150 ft., drilling 4,547 ft.
Union Prod., 1 Karslake, T. D. Wilson Sur., 2½ mi. SW of Waskom area, drilling 5,020 ft.

Bowie County

W. E. Neill, 1 L. Fort, 600 ft. NL, 150 ft. EL, 103-ac. tr., L. Peters Sur., T.D. 2,320 ft., report S.S.O., ran electrical survey, W.O.
Shell, 1 W. D. Wall, 6,900 ft. EL and 4,000 ft. SL of J. Downey Sur., 6,000-ft. test, top Pettit 5,866 ft., top Travis Peak 5,957 ft., T.D. 6,222 ft., S.D.O.

Marion County

Henry & Parson, 1 W. C. Ralph, Eli Usury Sur., 3 mi. N of Jefferson, set 9⅝-in. casing 1,012 ft., flowing gas and no oil, killed, set 5½-in. casing 6,000 ft., perf. 5,986-98 ft. and 5,974-80 ft., tested gas, small S.O., perf. 5,960-68 ft. and 5,890-94 ft., testing.

Sabine County

Sterm & Womack, 1 I. K. Kieth Southwestern Lands, 400 ft. SL, 500 ft. EL, 53-ac. tr., L. Grace Sur. Drilling shale 5,667 ft.

Shelby County

W. C. Parker, 1 F. G. Willey, 480 varas NL 240 varas EL 94-ac. tr., A. K. English Sur., T.D. 3,482 ft., set 5½-in. casing 3,471 ft., swabbed S.O.&G., prep to acid.
P. & B. Oil, 2 W. C. Windham, A. K. English Sur. Set 10-in. casing 170 ft., T.D. 5,335½ ft., pumped 20 B.F.P.D., 50 per cent salt water, acid and pumped 5 B.O. and 28 bbl. salt water, testing.
Superior Oil Co. of Tulsa, 3 Pickering Lbr. Co., 1,620 ft. SE, 660 ft. W, easterly NE cor., Thomas Haley Sur., drilling 190 ft.
Union Producing, 1-A Mrs. M. E. Garrett, 932 ft. due E, WL, 1,485 ft. N 30° W SL, W. M. Moody Sur. Set 9⅝-in. casing 1,653 ft., coring 4,818 ft.

EAST TEXAS BORDER FIRST REPORTS

Waskom—Harrison County

Arkansas Louisiana Gas, 1 Speights unit, 370 ft. N, 400 ft. E, SW cor. E. Little Sur., drilling shale and lime 2,600 ft.

Caddo—Marion County

J. D. Reynolds, 1 L. W. Whatley, 700 ft. N, 1,100 ft. W, SE cor., W. Coore Sur., 10-in. casing 202 ft., drilling 459 ft.

Daily Production

Estimated daily gross production week ended August 2:

NORTH LOUISIANA

	Bbl.
Bellevue	470
Caddo, light	5,745
Caddo, heavy	2,170
Converse	530
Cotton Valley	*13,590
Cross Lake	4,110
De Soto and Red River	1,025
Elm Grove	315
Haynesville	2,690
Holly	65
Homer	2,845
Lisbon	3,070
Olla	2,405
Pleasant Hill	85
Rodessa	18,565
Sarepta-Carterville	†340
Sibley	5
Sligo	965
Sugar Creek	15
Urania	2,470
Zwolle	1,665
Total North Louisiana	63,140
Rodessa, Texas	15,615

SOUTH ARKANSAS

Atlanta	2,725
Big Creek	90
Buckner	1,965
Champagnolle	1,175
Dorcheat	1,100
El Dorado	1,695
Fouke	280
Lewisville	750
Lisbon	215
Magnolia	21,600
McKamie	300
Miller County	340
Nevada	550
Nick Springs	350
Rodessa	1,960
Schuler	18,520
Smackover, light	1,675
Smackover, heavy	12,985
Stephens	550
Troy	1,310
Urbana	1,100
Village	1,155
Total South Arkansas	72,390

*3,720 bbl. is distillate; †55 bbl. is distillate.

Sun Oil Co. Launches New 18,000-Ton Motor Ship

CHESTER, Pa., Aug. 6.—Latest addition to the Sun Oil Co.'s tanker fleet, American Sun, an 18,000-ton motor ship, was launched at the Sun Shipbuilding & Dry Dock Co.'s yard here July 31.

The 550-ft. vessel was christened by Mrs. Matthew D. Sweeney, of Dallas, Tex., wife of the Sun Oil Co.'s agent in that state. The tanker has a capacity of 152,200 bbl. of oil and will be used in coastwise service between Texas and Marcus Hook, Pa.

Ohio Gasoline Collections

COLUMBUS, Ohio.—Gasoline-tax collections in June exceeded collections in the comparable 1939 month by $358,786, and June 1938 collections by $198,962, according to latest reports here.

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Yenior Discovery in Arenac Gives Boost to Michigan

By OTTO C. PRESSPRICH

SAGINAW, Mich., Aug. 5.—The spotlight returned definitely to the Michigan basin area last week, largely as a result of the oil strike in Adams Township of Arenac County. Listed last week as a completion, the No. 1 Yenior well accounted for more than two-thirds of the new daily potential production totaling 2,650 bbl. Nine other producing oil wells and one natural-gas test were recorded, while 12 oil tests and 1 natural-gas test were abandoned as dry holes.

No less than six new tests are getting under way immediately in the immediate vicinity of the Yenior outpost well. Pure Oil Co. has two scheduled. Smith Petroleum Co., American Drilling Co., Don Rayburn and Charles W. Teater also have announced drilling plans.

The Yenior test upset the dope and became the best well completed in Michigan in several months after having given every indication of being just another dry hole. Spudded last March 14, the test was a joint venture by Don Rayburn and Pure Oil, with Smith Petroleum as a minor contributor, in a tightly leased area in which the three concerned are the principal leaseholders. Teater Oil Co. also is well represented and American Drilling Co. has a close-in lease.

The well is exactly 1 mile northwest of the Adams field, where about 15 small wells are producing from the Traverse and Dundee formation at rates of from 10 to 30 bbl. a day, for the most part. Rayburn's test ran 40 ft. structurally lower than the nearest well in the field on the Traverse and was still 20 ft. lower than than the field on the Dundee. It gaged 254 bbl. naturally the first 12 hours, 455 bbl. in 23 hours. Treated with 1,000 gal. of acid, production kited to 1,981 bbl. in 24 hours. open flow for 17 hours, pinched in for seven.

The oil is black, similar to that of the Clayton field 10 miles to the northeast. While its quality is typical of that section of Michigan, having a 33-gravity, the value is increased by the lack of water contamination.

Possibilities of the field wait on the new wells because production from this horizon is new in the area. Geologists are comparing it to the Clayton sector where dolomite zones in the Dundee have brought some of the largest production in the field. If such is the case, geologists say, spotty production may be anticipated. The Dundee production in the Adams field is in limestone 55 to 75 ft. below the top of the formation and no shows were expected in the Yenior well until this horizon had been reached. Dundee was topped at 2,870 ft. and instead of consisting of limestone was dolomitic in character and oil bearing. The well began to show oil almost immediately, filled up 200 ft. after drilling from 2,870 to 2,876 ft., increasing between 2,876 and 2,879 ft., causing the hole to fill and flow in 5 hours.

The Adams field as it now exisits was discovered in the summer of 1937.

The Yenior well is in NE SE NE 22-19-3e (Adams Township). Over the past week its production continued at about 65 bbl. an hour, partially pinched in, but it was reported a noticeable decline in the gas pressure was being watched.

Meanwhile, for the first time in a year, new drilling permits for the past week were preponderantly for the basin area and Allegan County, which generally led each weekly list, failed to be included for a single location. Nine wildcat locations were included in the list of 20 permits, which brought the total for the year to 650. Ottawa County was location for five of the projected tests, Arenac for three, Clare, Barry and Midland two each, and one each for Roscommon, Isabella, St. Clair, Kent, Lenawee and Osceola.

The Isabella permit is for another attempt in Fremont Township, a mile south of a recent failure. Only one gas test was in the list, in Clare's Redding Township. The formerly prolific Porter field in Midland County has two locations for new tests, including Pure Oil's thirtieth well on its Narmore lease.

Drilling wildcat tests continued at a good pace during the past week, a half dozen in Clare, Gladwin, Osceola and Missaukee counties gettting close attention. Meanwhile there appeared a favorable chance of a mile southerly extension of Isabella's Wise field as Twin Drilling Co. expected a small producer in its No. 1 Methner extension. Cryden Petroleum Co. reported a good show of oil and gas in the Michigan stray as it continued drilling well below 2,600 ft. in the east Bloomfield test, a wildcat about a mile northwest of the proven Sherman-Broomfield pool.

Completions last week were in 17 townships of 12 counties. Kent County had five completions, all small producers, Ottawa and Van Buren one each, Allegan County two. The natural-gas producer is in Arenac County while the gas-test failure was in Lake County. Many of the abandoned tests were of a wildcat nature.

MICHIGAN COMPLETIONS

Allegan County

Fillmore Township: A. E. Kopprasch, Tr., 1 Lue DeWeerdt, SW SW NE 14-4n-14w. Dry. T.D. 1,838 ft.
Heath Township: H. C. Drilling Co., 1 John VanDyke, NE SE NE 8-3n-14w. Dry. T.D. 1,535 ft.
Howard E. Fowler, 3 Albert Stankey, SE SE SE 4-3n-14w. 30 bbl. natural, T.D. 1,504½ ft.

(Continued on Page 88)

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By
R. MARNE SANFORD

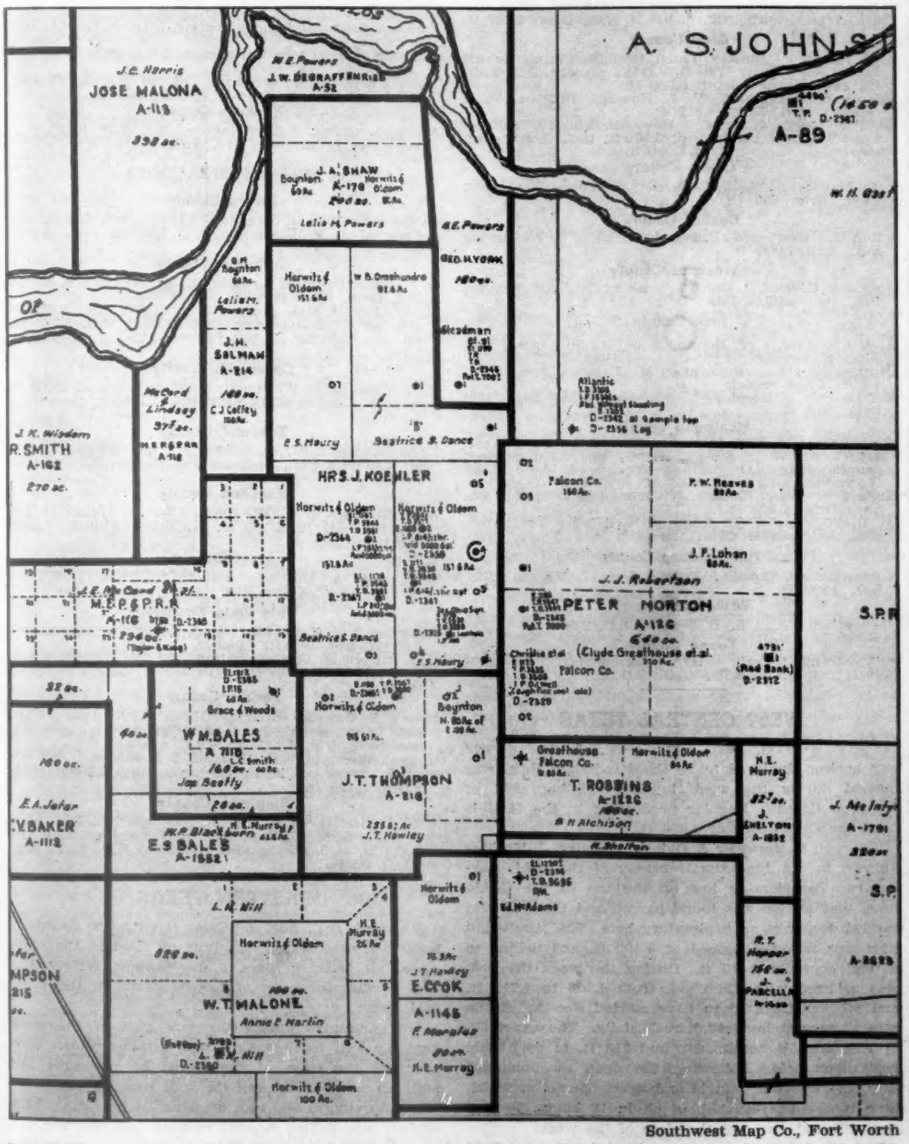
Caddo Lime and Strawn Sand Pays in Archer County

WICHITA FALLS, Tex., Aug. 5.—Another very fruitful week has just passed in the North Texas district. A new pay level for the Hull-Silk field, its seventh, was opened in the Caddo lime; Archer County was given a new field discovery; a shallow pool was opened in Wilbarger County, and outpost development reached its highest peak of the year around the many new fields opened throughout the district during the past few months.

Caddo lime production for the Hull-Silk field was assured when Chapman & McFarlin, 7-E Wilson, E. Hall Survey, northwestern part of the field, came in to flow at the rate of 340 bbl. in 6 hours. The test was drilled as a deep exploratory hole to the Ellenburger lime at 4,894 ft. Only slight shows were found at this depth and it was plugged back to 4,650 ft. where casing was cemented. The lime section from 4,605-35 ft. was given a 100-qt. shot and the well kicked off to flow 340 bbl. of oil in 6 hours under pressure of 400 lb. on the casing. The well flowed for 3 hours following the 6-hour gage, however, the last 3 hours was ungaged flow. It is estimated good for 50 bbl. hourly through tubing. Completion work had started as the week closed.

Definitely assuring northeastern Archer County a new Strawn sand oil field, Walter Gant, 1 Vogtsberger, Block 3, German Emigration Lands Survey, flowed 10 bbl. hourly for 6 hours while cleaning out after shot. The well first indicated production about 2 weeks ago, however, production gages had not been reported. The pay section is from 4,650 to 4,720 ft., total depth, plugged back from 5,335 ft. When the well has finished cleaning out it will be shut in for official gage and pipe-line connection.

Wilbarger County's shallow field was opened by Laird & Lutz, 1 Streit, Section 19, Block 9, H.&T.C. Survey, about 15 miles southwest of Vernon. Saturated sand was topped at 1,463 ft. and drilled to 1,472 ft. Casing was cemented at 1,431 ft. and when plug was drilled the well came in at the estimated rate of 100 bbl. daily. The oil tested 36.4 gravity and operators were last reported running tubing to take official gage.



Southwest Map Co., Fort Worth

Holding the attention in the West Central Texas area during the week was the report of production from the Mississippian lime at a deep well in the Stribling field in Stephens County. Drilled below the regular pay of the field, the well is reported to have topped Mississippian lime at 4,400 ft. and drilled in streaked saturation to a total depth of 4,713 ft. Following an acid treatment during the week the well came in flowing from 300 to 400 bbl. daily.

Clay County Activity

The discovery well brought in about 3 weeks ago by E. C. Norwood on the Hapgood ranch in eastern Clay County has been given a 3-mile north outpost. It is Roberts, Lynch and Jones Associated Oil Co. and the drill site is in the Bryant Edwards lands, Block 40, Madison County School Lands Survey. Spudding is scheduled for the first of the week.

The Henderson field opened early last spring in the extreme southwestern corner of Clay County by Shell Oil Co., Inc., has been given its largest well. It is Shell, 3 Henderson, east offset to the discovery and was completed for 175 bbl. of oil in 3 hours, flowing, or at the rate of about 1,400 bbl. daily. The new well is in Block 2605, T.E.&L. Survey.

The deep field opened in western Clay County about a year ago on the Kinder ranch by Frabor-Hodges Corp. is being given a new operation. It is the same operator's No. 1 Kinder, located 660 ft. from the north and west lines of Block 17, Clark & Plumb subdivision. Contract depth is 4,350 ft. This is the first operation in the area since the rather small discovery well was completed.

Indicating the largest well yet drilled in the Seay field of western Montague County, Gulf Oil Corp., 1 Worsham, Section 33, Block 4, H.&T.C. Survey, west offset to the discovery well, blew in the first of the week with a flow of 141 bbl. of oil in 1 hour. The test is bottomed at 5,701 ft. and preparations were being made at the close of the week to run tubing and complete.

A new outpost test has been staked in Sinclair Prairie's new field just west of Bonita in Montague County. A mile northeast of the field A. R. Dillard will drill on the E. E. Holland land, southeast corner of M. Montalba Survey. Seven miles south of St. Jo in Montague County Seitz, Comegy & Seitz, 1 I. C. Harris, B.B.B.&C. Survey, is a new location with the drill site being in the western part of an 80-acre tract out of the 160-acre Harris farm.

NORTH TEXAS COMPLETIONS

Archer County

Olney field: Burns, 4 National Bank, 9 bbl., 1,469-76 ft.
Burns, 1 Perkins, 12 bbl., 1,436-56 ft.
Hull-Silk field: Continental, 18 Wilson-McCrory, 228 bbl., 4,316-89 ft.
Dillard, White & Duncan, 8 Nichols, 1,322 bbl., 4,355-4,411 ft.
Dillard, White & Duncan, 9 Nichols, 1,200 bbl., 4,357-4,427 ft.
Helmerich & Payne, Madza Oil, 5 Finley, 1,184 bbl., 4,325-57 ft.
Bert Ligon, 1 White C, 752 bbl., 3,851-3,910 ft.
Bert Ligon, 4 White C, 10 bbl., 460-68 ft.
Bert Ligon, 5 White C, dry at 980 ft.
Bert Ligon, 6 White C, 35 bbl., 962-69 ft.
Bert Ligon, 7 White C, 10 bbl., 464-77 ft.
Peterson & McCarty, 37 Wilson, 702 bbl., 3,724-61 ft.
Peterson & McCarty, 38 Wilson, 3 bbl., 478-89 ft.
Petroleum Prod., 2 Johnson, 1,475 bbl., 4,340-90 ft.
Phillips, 6 Little, 820 bbl., 4,356-4,400 ft.
Archer City field: Harlin, 1 Powell, dry at 1,299 ft.

Clay County

Thornberry field: Akin, 1 Edrington, dry at 1,457 ft.
Cunningham, 1 State, dry at 1,237 ft.
Norwood, 6 Taylor, 240 bbl., 1,121-43 ft.
Norwood, 7 Taylor, 248 bbl., 1,120-43 ft.
Roach, 2 Roach, dry at 285 ft.
Petrolia field: Danciger Oil, 1 Edwards, dry at 1,606 ft.
Morgan, 1 Brannon, dry at 264 ft.
Wildcats: Deep Rock Oil, 1 B. Dycus, dry at 5,702 ft.
McMillan, 1 Watson, dry at 3,760 ft.

Cooke County

T.C.U. field: Dodson & Powell, 1 Lynn, 75 bbl., 1,075-86 ft.
Muenster field: Texas Co., 21 Truebenbach, 106 bbl., 774-806 ft.

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Denton County

Wildcat: Seitz, Comegy & Seitz, 1 Freeman, dry at 6,014 ft.

Montague County

Rogers & Rogers field: Conner, 2 W. L. Reed, 1,239 bbl., 4,360-81 ft.

Wichita County

K.M.A. field: Hammon, 3 fee, 506 bbl., 3,962-4,034 ft.
Hammon, Hanlon & Buchanan, 21 Fassett-Tuttle, 408 bbl., 3,905-4,032 ft.
Hanlon, Buchanan, 32 Fassett-Tuttle, 372 bbl., 4,049-77 ft.
Shell, 10 Griffin, 400 bbl., 3,720-3,835 ft.
Nenmex Oil, 14, 15 State, abandoned locations.
Electra field: W. A. McClure, 1 fee, dry at 462 ft.
Mitchell Oil, 1 Wigley, 6 bbl., 584-90 ft.
Texas Co., 75 Honaker, 15 bbl., 1,003-10 ft.

Young County

Newcastle field: Hughes, 1 Casey, dry at 516 ft.
Jirik, 5 McBrayer, dry at 697 ft.
Charles King, 4 Dailey, 5 bbl., 542-61 ft.
Charles King, 5 Dailey, 6 bbl., 543-61 ft.
Graham field: Trentman Oil, 5 Guinn, 475 bbl., 2,724-2,800 ft.
Zwiefel, 1 Turner, 1,100 bbl., 3,898-4,003 ft.
Zweifel, 1 Vaughan, 15,000,000 cu. ft. gas, 3,732-72 ft.

NORTH TEXAS WILDCATS

Archer County

Chapman & McFarlin, 7 Wilson, E. Hall Sur., Abst. 682. Topped Ellenburger 4,894 ft.; T.D. 5,091 ft.; P.B. 4,650 ft.; shot with 100 qt. 4,636-50 ft.; bailed good oil show; treated 3,000 gal. acid; flowed 340 bbl. in 6 hours; waiting for gage.
W. H. Gant, 1 A. Vogtsberger, Sec. 3, G. E. Co. A-146 Sur.; 5,200-ft. test. O.S. 4,659-71 ft.; L.S.O. 5,257-69 (cd.) ft.; cmtd. 6⅝-in. at 4,651 ft.; swbd. 16 B.O. in 16 hrs.; flwd. 62 bbl. in 4 hrs. through csg. after being S.I. for 2 wks.; shot 200 qt. 4,680-4,715 ft.; flwd. 450 bbl. in 9 hrs.
Paul Steed, 1 Prideaux, Sec. 1807, T.E.&L. Sur. First report.
Clark, 1 Goldsmith, Blk. 6, S.A.R. Sur. Drlg. 4,701 ft.

Clay County

L. T. Burns, 1 Calloway, Lot 9, Hopkins County School Lands Sur., Abst. 176. O.W.D.D.; present T.D. 5,356 ft.; new contract depth 6,000 ft.
Horton & Wiggins, 1 W. J. Howard, Blk. 31, T. J. Belcher Sur. Drlg. 4,912 ft.
Roberts, Lynch & Jones, 1 Edwards, Blk. 40, Madison County School Lands Sur.; 6,500-ft. test. Rigging up rotary.

Cooke County

J. D. Hancock, 1 S. P. Alexander, J. Woods Sur., Abst. 1140. Drlg. 600 ft.

Denton County

Amon G. Carter, 1 W. P. and A. P. Allen, S. Westbrook Sur. S.D. 4,000 ft.

Hardeman County

Norris & Gilbert, 1 Robert Weekley, SW SE Sec. 87, Blk. 16, H.&T.C. Sur. Drlg. 3,758 ft.

Jack County

R. A. Conkling, 1 M. Hoofle, A. James Sur., Abst. 318, 3 mi. S Antelope; 3,500-ft. test. Drlg. 2,131 ft.
Continental Oil, 1 Robertson, M. J. Swan Sur., Abst. 1,650. First report.
Rathke Oil, 1 Moseley, J. Harrison Sur., Abst. 259. Drlg. 915 ft.

Montague County

Walter Gant, 1 Will Laird, R. T. Millard Sur., Abst. 470, 7 mi. W of Sunset. S.S.O. 4,857-77 ft.; cored conglomerate S.O. 5,650-61 ft.; cored shale 5,667 ft.; conditioning hole 5,901 ft.; will drill deeper.
Hults & Owens, 1 Tucker, NW cor. Sec. 2836, T.E.&L. Sur. Drlg. 2,500 ft.
W. H. Peckham, 1 Dr. Lawson, N. Kimbro Sur., Abst. 405. Drlg. 6,060 ft.

Throckmorton County

Normandie Oil Corp., 1 Travis, Sec. 37, Travis C.S.L. S.D. 3,990 ft.

Wilbarger County

Herbert Oil Co., 1 S. B. Peters. S.D. 2,900 ft.

Young County

A. T. Strong, 1 Craig heirs, N. Lynch Sur. S.O. 4,225-40 ft.; saturation 4,720-30 ft.; S.D.O.

WEST CENTRAL TEXAS

FORT WORTH, Tex., Aug. 5.—A new and deeper pay horizon, believed to be the Mississippi lime, was opened during the week in the Stribling field of Stephens County. Regular production in the field is from the Caddo lime at 3,800 ft.

The well is Horowitz & Oldom, 4 Maury, J. Koehler Survey, in the approximate center of the field. Having run considerably low on the top of the Caddo lime, that section was found barren and the well was carried deeper as an exploratory hole. The Mississippi lime was reported topped at 4,400 ft. and drilled to a total depth of 4,713 ft. During the week the hole was acidized with 5,000 gal. from 4,500 to 4,713 ft. and oil was reported to have started flowing at the rate of several hundred barrels daily. The exact oil-bearing zone is not known, and 213 ft. of open hole was given acid. Following the open and ungaged flow, the well was shut in and again opened at which time it swabbed 369 bbl. of oil in 10 hours. Testing was still under way at the close of the week.

The possibility of a new pay level for the Ivy field area appeared during the week when Humble, 1 Simpson & Bean, Section 13, Block 3, H.&T.C. Survey, a mile northeast of the Ivy field, cored a stray sand between the Hope and the King sands. The core was 16 ft. and was from 1,770 ft. to 1,786 ft., total depth. Casing has been cemented on bottom and testing will commence this week. The wildcat was started as a prospective extension to the Palo Pinto lime producing Ivy field.

A north outpost wildcat has been staked to a shallow area discovered recently in Shackelford County. The location is Fortex Oil, 1 J. F. Dyer, NW Section 83, Block 12, T.&P. Survey. Just 1¾ miles to the south is the shallow area opened by Ungren & Frazier in which several good producers have been drilled. The wildcat is contracted to 1,200 ft.

WEST CENTRAL COMPLETIONS

(24-hour gages)

Callahan County

Wildcat: West, 1 Bowman, dry, T.D. 1,970 ft.
Hatchett field: Johnson, 1 Hickman, dry, T.D. 470 ft.

Coleman County

Novice field: Bradford & Robertson, 1 Morris, 375 bbl., 3,546-81 ft.

Eastland County

Wildcat: Steele & Black, 1 Poe, dry, T.D. 931 ft.

Jones County

Lewis field: Omohundro, 6 Adams, 398 bbl., 1,878-86 ft.
Sayles field: Deep Rock 1, Sayles, dry, T.D. 2,216 ft.
Wildcat: Sandefer & Martin, 1 Hudspeth, dry, T.D. 2,591 ft.

Shackelford County

Lynch field: Bowers, 1 Sedwick, 10 bbl., 371-76 ft.
Keyes, 1 Lynch, dry, T.D. 530 ft.
Albany field: Hart, 8 Sanders, 11 bbl., 577-86 ft.
Sedwick field: Roark, 10 Hickman, 53 bbl., 611-64 ft.
Gillespie & Sharrock, 1 Snyder, dry, T.D. 739 ft.
Moran field: Mikeworth & Son, 1 Chism, dry, T.D. 641 ft.
Jackson field: Ungren & Frazier, 3 Dyer, 82 bbl., 923-31 ft.
Gorsuch field: Swan & Gorsuch, 1 Lazarius, dry, T.D. 1,517 ft.
Bluff Creek field: Westexas Oil, 13 Morris, 10 bbl., 1,583-94 ft.

Stephens County

Wildcat: Carey, 1 Crudgington, dry, T.D. 3,735 ft.
Schwind, 1 Compton, dry, T.D. 200 ft.

WILDCAT OPERATIONS

Brown County

F. Brittain, 1 G. R. McEnloe, 1,130 ft. NE, 300 ft. NW lines of J. Williams Sur. 33; 1,800-ft. test. S.D.O. 50 ft.

Callahan County

N. D. Gallagher, 1 E. Grisson, SE pt. Sec. 2, Blk. 8, S.P. Sur. Drlg. 1,450 ft.
H. W. Lee, 1 Mrs. Murray Harris, SW cor. NW SW Sec. 99, B.B.B.&C. Sur.; 1,350-ft. test. T.D. 1,229 ft.; oil sd. 1,227-29 ft.; est. 30 B.O.P.D.; rng. tbg. to 1,229 ft.; T.D.

Comanche County

C. D. Lane, 1 H. W. Strout, 3,080 ft. from N, 2,200 ft. from E lines of E. D. Corbett Sur., Abst. 154. Drlg. 2,100 ft.

Eastland County

L. M. White, 1 W. H. White, NW pt. White tract in H. Kendrick Sur., 10 miles S of Ranger. Drlg. below 50 ft.

Hamilton County

A. J. Caldwell, 1 W. W. Jones, 1,002 ft. from NE, 150 ft. from SE lines of W. H. Crowder Sur. S.D.O. 3,010 ft.

Jones County

Best, 1 A. A. McDuff, 5,200 ft. S, 1,100 ft. E lines of J. J. Hughes Sur. 256. Drlg. 1,840 ft.

Palo Pinto County

Georgian, 1 J. K. Weldon, A. J. Smith Sur., Abst. 393; 2,500-ft. test. S.D.R. 1,000 ft.
Fred Guyer, 1 Dalton, Dalton Sur., Abst. 153; 1,400-ft. test. T.D. 1,840 ft.; U.R. 8¼-in. csg.

Parker County

Brown & Gardner Bros., 1 Gilbert, T.&P. Sur., Abst. 1958. Csg. set 3,905 ft.; est. 500,000 cu. ft. gas and spray oil; drlg. 4,750 ft.; S.S.O. 4,405-15 ft.
C. Leidecker and Wm. Holland, 1 J. A. Boyd, NE NE of S 100 ac. of A. J. Edwards Sur.; 4,500-ft. test. S.D.R. 2,410 ft.

Stephens County

J. R. Tolbert, 1 W. L. Martin, NW cor. NE, Blk. 1335, T.E.&L. Sur., 1½ mi. SW of Fagg area. Est. 30 B.O.P.D. at 3,985 ft.; well flwd. 295 B.O. in 72 hrs.; S.D.O. 3,939 ft.

EASTERN TEXAS

DALLAS, Tex., Aug. 5.—Camp County was definitely assured a new deep Pettit lime oil field as the week closed. It is H. S. Moss, 1 Joe Venters, Wright Survey, 3 miles southeast of Leesburg and in the Ferndale area.

Low pressures during the fore part of the week kept the well from making any sustained flows, however, by the close of the week the pressures had built up considerably and the well was reported flowing, naturally, at the rate of about 84 bbl. daily. This wildcat was drilled several months ago and was not entered for testing until about a week ago. Production is through 120 shot holes in casing from 8,000 to 8,040 ft.

After flowing at intervals during the week the steady flow was started at 4 p.m. Thursday. In the

(Continued on Page 90)

Rio Bravo Structure Defined On Northeastern Flank

By L. P. STOCKMAN

LOS ANGELES, Calif., Aug. 5.—It is needless to say that the embargo of aviation gasoline and licensing of export shipments of crude oil and possibly fuel oil, diesel, gas oil, and kerosene distillate may exert a very important effect on California crude-oil production. It is too early to say what possible effect this action may have but it has serious implications and may lead to critical conditions in California if subsequent developments result in almost complete suspension. There has been very little profit in the sale of petroleum and its products to Japan and its advantage lies in the fact that it furnishes leverage with which to balance supply and demand. Due to the degree of curtailment and the probability that very little additional curtailment can be secured without causing severe repercussions marketers have been able in the past to dispose of a large part of the surplus that would ordinarily occur and have thus averted a general breakdown. The present curtailment program contemplates that by the end of the current year, provided conditions continue as they are, the allotment of top wells will have been reduced to about 150 bbl. per day by December. If the new licensing agreement results in a severe decline in demand it will be necessary to absorb an amount of production equal to the retardation in shipments. A well in the Wasco field of Kern County where production is developed at from 13,000 to 15,000 ft. and drilling costs approximate $175,000 if no difficulty is encountered would require about 4 years to pay out if all charges are properly charged against operation.

Crude-Oil Production

Crude-oil production during July was slightly lower than state production during June but was still about 30,000 bbl. per day above the prescribed maximum allowable of 587,000 bbl. per day. Current daily production of leading California fields for the past week follows:

	Bbl.
Wilmington	83,200
Kettleman North Dome	44,500
Long Beach	42,175
Midway-Sunset	40,200
Ventura Avenue	35,850
Coalinga	26,250
Santa Fe Springs	25,950
Huntington Beach	24,150
Montebello	19,150
Santa Maria Valley	16,950

SAN JOAQUIN BASIN

Superior Oil Co. appears to have almost definitely defined the northwestern limits of the Rio Bravo field of Kern County late this week when a depth of 11,740 ft. had been reached in No. 1 Riggs, an outpost in 21-28-25. This outpost, which may yet be completed as a commercial producer, definitely indicates that the outer limits in the northwestern end of the Rio Bravo field have either been reached or are located in close proximity to No. 1 Riggs. The seismograph survey made more than a year ago by Union Oil Co. indicated a decided plunge in the nose of the structure at this point and the log of No. 1 Riggs definitely shows such a condition. Because of its importance, the outcome of work will have a decided effect on drilling operations to the northwest where Barnsdall Oil Co., General Petroleum Corp., Tide Water Associated Oil Co., and others have acreage that appears at this time to be just over the line beyond commercial production. For several months it had been thought that the northwestern end of the Rio Bravo structure extended over into Sections 20, 21, and 29-29-25 as the highest wells structurally were found in the southwestern corner of 27-28-25. It might be well to remember, however, before definitely placing the limits of the structure as being located east of No. 1 Riggs that only one dry hole has been drilled in the Rio Bravo field and that the exact limits are still more or less conjectural and based on contours drawn on the top of the Rio Bravo zone. While waiting on the results of drilling operations on No. 1 Riggs, Superior Oil Co. is still doing validating work on No. 1 Bohna in 20-28-25, and No. 1 Devine in 21-28-25. No. 1 Bohna is located northwest of No. 1 Riggs and No. 1 Devine is located northeast of the latter well.

TOTAL TANKER SHIPMENTS FROM CALIFORNIA TO DOMESTIC AND FOREIGN PORTS (JAN. 1-JULY 28)

	Los Angeles		San Francisco		Total	
Intercoastal-domestic—	1940	1939	1940	1939	1940	1939
Crude oil	307,122	452,475	.....	.....	307,122	452,475
Fuel oil	264,124	1,234,523	67,840	124,055	331,964	1,358,578
Diesel and gas oil	.....	163,501	281,260	69,550	281,260	233,051
Gasoline	1,835,969	2,150,090	.....	.....	1,835,969	2,150,090
Kerosene	.....	122,200	.....	.....	.....	122,200
Asphalt	.....	.....	379,114	353,166	379,114	353,166
Lubricants	.....	.....	16,568	19,534	16,568	19,534
*Total	2,407,215	4,122,789	365,668	213,139	2,772,883	4,335,929
Daily average	11,463	19,726	1,741	1,020	13,204	30,746
Foreign exports—						
Crude oil	7,665,486	9,188,541	2,432,787	3,116,792	10,098,283	12,305,333
Fuel oil	5,010,840	5,204,518	1,369,234	1,714,820	6,380,074	6,919,338
Diesel and gas oil	3,769,465	4,171,058	1,813,113	1,647,167	5,582,578	5,818,225
Gasoline	2,692,524	4,367,555	1,558,700	1,764,383	4,251,224	6,131,938
Kerosene	645,071	1,136,868	396,540	366,647	1,041,611	1,503,515
Asphalt	.....	.....	.....	6,919	.....	6,919
Lubricants	107,466	86,172	287,117	394,983	394,583	481,155
Other finished oil	.....	.....	738	352	738	352
*Total	19,890,862	24,154,712	7,855,229	9,005,144	27,749,091	33,159,856
Daily average	94,718	115,573	37,420	43,086	132,138	158,659
Coastwise-domestic—						
Crude oil	5,162,623	7,674,684	3,078,049	3,684,620	5,162,623	7,674,684
Fuel oil	8,175,481	5,351,356	640,227	665,344	11,253,530	9,035,976
Diesel and gas oil	1,623,935	1,347,357	3,906,153	4,457,712	2,264,162	2,012,701
Gasoline	9,770,730	9,266,457	320,019	479,180	13,676,883	13,724,169
Kerosene	325,103	236,078	.....	.....	645,122	715,258
Total	25,057,872	23,875,932	7,944,448	9,286,856	33,002,320	33,162,788
Daily average	119,323	114,239	37,831	44,435	157,154	158,674

*Exclusive of asphalt.

Coalinga Field

Five new wells were completed in the Northeast Coalinga field of Fresno County this week but one of them had not yet completed its flow test. This was No. 55-18 Cook of Union Oil Co. in 18-19-16 which came in wet originally a week or so ago. After locating water at 8,257 ft. the company plugged back with 20 sacks of cement. It is still too early to determine whether the production of this well will clean up or require some further correctional measures. Wilshire Annex Oil Co., which drilled a duster last year in 30-19-16, has completed No. 62-30-B on the same property and this time succeeded in completing the well flowing 165 bbl. of clean 27.2-gravity oil and 965,000 cu. ft. of gas daily from 8,210 ft. The first well on this property showed a good oil sand but failed to produce commercially principally due to bottom water. Standard Oil Co. headed the completion list in the Northeast Coalinga field by completing two wells in 19-19-16 that showed an aggregate initial daily production of 7,086 bbl. Amerada Petroleum Corp., which proved up the existence of large production in the Northeast Coalinga field subsequent to discovery of Gatchell production by Petroleum Securities Co. in the Southeast Coalinga field, this week completed No. 3-20-B Ewing in 20-19-16 flowing 526 bbl. of clean 27.7-gravity oil and 521,000 cu. ft. of gas daily from the Gatchell sand at 8,189 ft. There does not appear to be any indication of a letup in development work in the Northeast and Southeast Coalinga fields as the new derricks standing and additional locations staked indicate a continuance of work for another several months at least.

SAN JOAQUIN BASIN COMPLETIONS

Tupman Field

Richfield, 18-28-A Kern County Land.....28-30s-25e
Flowed 1,576 bbl., 33.4-gravity, 2 per cent cut, 990,000 cu. ft. gas, T.D. 9,025 ft., recompleted after recementing through perforations at 8,624 ft. to reduce gas-oil ratio.

Richfield, 34-33-A Kern County Land.....33-30s-25e
Flowed 1,530 bbl., 32.2-gravity, 10.1 per cent cut, 1,860,000 cu. ft. gas, two 1½-in. beans, T.D. 9,190 ft. Taft Well Drilling Co. is contractor.

Northeast Coalinga Fields

Amerada, 3-20-B Ewing.....20-19s-16e
Flowed 526 bbl., 27.7-gravity, clean, 521,000 cu. ft. gas, 14/64-in. bean, T.D. 8,189 ft., top Kreyenhagen 7,022 ft. top glauconitic 8,024 ft., top Gatchell zone 8,084 ft.

Standard, 77-19-B fee.....19-19s-16e
Flowed 3,197 bbl., 26.5-gravity, clean, 2,100,000 cu. ft. gas, 58/64-in. bean, T.D. 8,223 ft., tubing pressure 1,175 lb., casing pressure 1,250 lb., top Kreyenhagen 6,930 ft., top glauconitic 8,024 ft., top Gatchell 8,150 ft.

Standard, 86-19-B fee.....19-19s-16e
Flowed 3,889 bbl., 26.4-gravity, clean, 2,585,000 cu. ft. gas, 48/64-in. bean. T.D. 8,208 ft., top glauconitic 8,036 ft., top Gatchell 8,111 ft., tubing pressure 650 lb., casing pressure 1,090 lb.

Wilshire-Annex, 62-30-B.....30-19s-16e
Flowed 165 bbl., 27.2-gravity, clean, 250,000 cu. ft. gas, 16/64-in. bean, T.D. 8,395 ft., P.B. 8,260 ft., tubing pressure 950 lb., casing pressure 1,125 lb., top Kreyenhagen 6,967 ft., top glauconitic 8,113 ft., top Gatchell 8,225 ft.

Ten Section Field

Shell, 41-30-A Kern County Land.....30-30s-26e
Flowed 1,304 bbl., 34.6-gravity, very clean, 965,000 cu. ft. gas, T.D. 8,210 ft., tubing pressure 150 lb., casing pressure 760 lb.

Cantua Creek

Logan, 44 Yearout.....26-16s-14e
Dry, T.D. 9,002 ft., top Kettleman sand 5,447 ft., top Temblor 6,025 ft., top Oyster Beds 6,524 ft., top Kreyenhagen 6,829 ft., top Domengine 7,787 ft., base Domengine 7,950 ft., bottomed in green silty sand, Cantua sandstone absent.

Shale Hills District

Texas, 1 McDonald-Theta.....12-28s-19e
Dry, T.D. 5,247 ft., top brown shale 3,240 ft., thin streaks oil sand at 3,000 ft., vertical dips at 3,912 ft., 60° to 80° dips at 5,065 ft., formation test 4,450-4,697 ft. recovered 1 stand mud and 7 stands salt water.

Greeley District

Superior, 1 Brandt.....28-29s-26e
Dry, T.D. 11,761 ft., top Vedder sand 11,742 ft.

SAN JOAQUIN VALLEY WILDCATS

Blackwell's Corner

Seaboard, 66-17 Beer.....17-26s-19e
Top Temblor 470 ft., objective: point of Rocks sand in Upper Eocene expected around 8,500 ft., drilling ahead in Kreyenhagen shale at 3,480 ft.

North Coalinga District

Associated, 1 U.S.I.....6-19s-16e
Drilling ahead at 4,590 ft., this is a joint test of Union Oil Co., Standard Oil Co., and Tide Water Associated Oil Co. with the latter doing actual work, well is in Fresno County a few miles north of Northeast Coalinga field and objective is Gatchell sand of Eocene age which has been found so prolific in the Northeast and Southeast Coalinga fields; this well is being drilled on theory that the old seashore along which have been found the Northeast and Southeast Coalinga fields straightens out to the north instead of swinging to the west as has been expected.

LOS ANGELES BASIN

Thorley Oil Co. proved up the existence of a commercial accumulation of crude oil at the north end of the Athens section of the Rosecrans field late last week but it was not until early this week that a final gage was available. Production during the past several days has ranged all the way from 310 bbl. daily to 355 bbl. with the average around 350 bbl. Very little gas accompanied the crude oil from this well and for this reason it will take several additional wells before the

importance of this deep-zone discovery can be evaluated. The well is producing from the equivalent of the O'Dea zone that has been found so highly productive in the older section of the Rosecrans field to the south. There appears to be somewhat of a similarity, however, and this may mean more than is at present believed. This is that production characteristics of the Thorley outpost in the Athens section of the field closely resemble production tendencies of wells in the area at the south end of the Rosecrans field and say about 1,500 ft. east of the fault against which an accumulation of oil and gas has been trapped. To date operators have been leasing on the theory that the Thorley well indicates the existence of a deep zone equivalent to the O'Dea zone in a normal anticline separated from the older section of the Rosecrans field by a cross fault.

Attention is respectfully directed to the possibility of another fault accumulation rather than a deposit in a normal anticline. One thing stands out above all others. If this is an accumulation in a normal or even faulted anticline operators should go slow because there will not be any flush production. If the first well which in this case is No. 12-1 Athens of Thorley Oil Co. does not show any kick with the favorable penetration taken in the oil sand then no other subsequent well can be expected to do any better. This well is producing from 250 ft. of oil sand and a zone of this thickness should have more kick in a normal structure with adequate closure. The company has had a gas trap standing but has not turned the well through it. Production to date has been direct to two 1,000-bbl. steel tanks. The more one thinks about the condition of the Thorley well the more one becomes convinced that this is a fault accumulation. Certainly the limits of production are restricted and the dry hole drilled below 10,000 ft. by Union Oil Co. about 2,000 ft. south of the Thorley well indicates that this new deep sand will not conform with the upper horizon which extends south of Union's deep duster.

Operators interested in this general area are unable to determine what has happened from a structural standpoint. Three points are open to consideration. From south to north we find first a deep dry hole drilled below 10,000 ft. by Union Oil Co. Then we find a well located about 2,000 ft. north of this duster to be producing 350 bbl. per day of clean 31.2-gravity oil. One mile northwest we find the El Rey Oil Co. pumping 125 bbl. per day from No. 1 Westmore Land Co. in an area that was unfavorably regarded by many operators for several years. Correlation work across the area through the medium of logs from the numerous wells drilled has failed to indicate the existence of structure. And yet El Rey Oil Co. has a well pumping 125 bbl. per day on a jack. The operator who can find the answer to these problems in the near future should be able to make considerable money. Leases in the Athens section went completely out of reach during the production test of the Thorley well but the hot spot has cooled off very quickly. Standard Oil Co., Shell Oil Co., Inc., and Union Oil Co. are all playing the acreage west of the Thorley well but independent operators do not agree with these deductions which are predicated on the assumption that there is not one field in the Athens area but in reality there are two separate accumulations.

LOS ANGELES BASIN COMPLETIONS

Dominguez Field

Shell, 106 Reyes 33-3s-13w
Flowed 1,296 bbl., 29.3-gravity, clean, 1,150,000 cu. ft. gas. T.D. 7,935 ft. Completed in eighth Callender zone.

East Coyote Field

Master, 2 Lempke 19-3s-9w
Pumped 345 bbl. T.D. 4,258 ft. Deepened from 4,128 ft.

Montebello Field

Kern, 24 Monterey 2-2s-12w
Flowed 1,440 bbl., 36.8-gravity, 3 per cent cut, 2,216,000 cu. ft. gas through two 1½-in. beans. Deepened from 7,655 ft. to 7,665 ft. Tubing pressure 510 lb., casing pressure 575 lb.

Potrero Field

Basin, 9-C Potrero 34-2s-14w
Flowed 275 bbl., 32.1-gravity, 5 per cent cut, 250,000 cu. ft. gas through 18/64-in. bean. T.D. 3,756 ft. Tubing pressure 125 lb., casing pressure 1,030 lb.

Rosecrans Field

Kelly & Sons, 1 McMillen Com. 20-3s-13w
Flowed 265 bbl., 32.1-gravity, clean, 12/64-in. bean. T.D. 7,693 ft. O'Dea zone. Recompleted after gun perforating opposite upper zone.

Union, 42 Rosecrans 18-3s-13w
Flowed by gas lift 70 bbl., 30.6-gravity, 3.2 per cent cut, 51/64-in. bean. O'Dea zone. T.D. 7,900 ft.

Thorley, 12-1 Athens 7-3s-13w
Flowed 350 bbl., 31.2-gravity, 3.1 per cent cut, 50,000 cu. ft. gas. T.D. 8,096 ft. 285 ft. of 4¾-in. liner including 251 ft. of 120-mesh landed at 8,095 ft. Well is located at north end of Athens section of Rosecrans field and was completed in O'Dea zone. This well is the deepest drilled in Athens area and opens up new zone for development.

Wilmington Field

San Rey, 1 Horn Com. 34-4s-13w
Flowed 180 bbl., 14.6-gravity, 3 per cent cut. Ranger zone. T.D. 3,720 ft., 28/64-in. bean.

LOS ANGELES BASIN WILDCATS

Dominguez District

Wood-Mellon, 1 Wood 31-3s-13w
Correlating about 250 ft. lower structurally than wells inside Dominguez field. Has logged small amount of oil sand in equivalent of sixth Callender zone. Now coring ahead for seventh and eighth Callender zones. T.D. 6,920 ft.

Inglewood District

Bush, 1 Sentous 17-2s-14w
T.D. 7,750 ft. Preparing to core ahead. Top Miocene 7,350 ft.

Newhall District

Havenstrite, 1 Lincoln 16-4n-17w
T.D. 5,530 ft. Strong gas showing on ditch. Top lower Pico formation 5,242 ft.

COASTAL DISTRICT

There were no developments of importance in the Coastal district during the past week except possibly the completion of No. 46 Ventura Land & Water of Tide Water Associated Oil Co. in the Ventura Avenue field. This new well, like many of its predecessors during the past several months, showed substantial production. It was brought in under complete control flowing 2,860 bbl. of 31.3-gravity oil cutting 4 per cent daily from 10,180 ft. Gas production was also large as the well flowed 2,750,000 cu. ft. during the initial 24 hours following completion. The Ventura Avenue field is about 50 per cent developed at the present time and the large production shown by completions during the past year indicates that this field will still be a factor of importance from a production standpoint several years from now. The western limits of production are still undetermined and there is a possibility that the present San Miguelito field may eventually be found to be the western end of the Ventura Avenue anticline. Shell Oil Co., Inc., operating in the western end of the Ventura Avenue field and Continental Oil Co. operating in the east end of the San Miguelito field are staying away from the intervening area between these two fields in order not to force an issue where each might be forced to engage in competitive offsetting. The Ventura Avenue field is held for the most part by Shell Oil Co., Inc., and Tide Water Associated Oil Co. but General Petroleum Corp. and several other operators have relatively small holdings. The Lloyd Corp., headed by Ralph Lloyd, largest owner of acreage in the Ventura Avenue field, has completed two good wells out on the east nose of the structure and should have another potential producer ready for an early production test. No. 5 Lloyd, which this company is drilling, experienced a blowout at 8,936 ft. and progress has been halted pending recovery of a fishing job that developed as a result of this unexpected blowout. It is interesting to note that the Lloyd Corp. is developing acreage in close proximity to a well drilled by Shell Oil Co., Inc., several years ago as a joint well between this company and Ralph Lloyd. Shell Oil Co., Inc., finished a small well as a result of this work and then Tide Water Associated Oil Co. drilled the same property without much success. Lloyd has always felt that production could be secured far out in the east end of the structure and eventually undertook deeper drilling at his own expense. His first well blew in flowing through drill pipe at the rate of about 2,500 bbl. per day and continued to produce for several months without showing much decline. Lloyd has finally convinced Ventura operators that there is production out on the east nose of the Ventura Avenue structure but has indicated that he is going to develop this property for his own account.

COASTAL DISTRICT COMPLETIONS

Rincon Field

C. C. M. O., 33-B Hobson 8-3n-24w
Flow 285 bbl., 30.5 gravity, clean, 85,000 cu. ft., 24/64-in. bean; T.D. 3,845 ft.

Gentral Petroleum, 2 Tomson 8-3n-24w
Pump 165 bbl., 24.2 gravity, 20 per cent cut; T.D. 3,774 ft.; recompleted after gun perforating upper zone.

Ventura Avenue Field

Associated, 46 V. L. & W. 24-3n-23w
Flow 2,860 bbl., 31.3 gravity, 4 per cent cut, 2,750,000 cu. ft. gas; completed in 57 zone at T.D. 10,180 ft.

COASTAL DISTRICT WILDCATS

Betteravia District

Union, 2 Pezzoni 33-10n-35w
T.D. 4,990 ft., coring for oil sand.

Sespe District

Merchants, 8 Cochran 1-4n-20w
This well is scheduled to be carried down into Eocene for test; now drilling ahead at 2,530 ft.

Lompoc District

Associated, 1 Souza 12-6n-33w
Drilling ahead at 901 ft. Well log shows basalt at 303-460 ft. Grading into siltstone at 461 ft. and continuing to present depth. Basalt outcrops short distance from well and its presence in well was expected. It is considered an intrusion and does not mean that the basement has been reached. The well is located in Santa Barbara County.

Michigan Fields

(Continued from Page 84)

Lang & Lewis, 3 H. D. Hulsman, NE SW SW 3-3n-14w. 250 bbl., acid, T.D. 1,541 ft.

Oversiel Township: H. C. Nelson, 6 Vrieling, NE NW NE 8-4n-14w. Dry. T.D. 1,972 ft.

N. R. Dodd, 1 H. and A. Pollaker, SW NW NW 9-4n-14w. Dry. T.D. 1,500 ft.

Arenac County

Adams Township: Don Rayburn, 1 O. Yenior, NE SW NE 22-19n-3e. 1,981 bbl., first 24 hours, T.D. 2,879 ft.

Clayton Township: W. E. Ross, 2 E. Southworth, W½ NW NE 15-20n-4e. 3,270,000 cu. ft., T.D. 1,245½ ft.

Genesee County

Grand Blanc Township: Stork Oil Co., 1 G. Gardam, NW SE NW 11-6n-7e. Dry. T.D. 2,376 ft.

Gratiot County

Washington Township: Edward J. VanCore, 1 George H. Oberlin, SW SE SE 36-9n-3w. Dry. T.D. 3,008 ft.

Kalamazoo County

Texas Township: Union, 1 Aleksich, SW NW NW 19-3s-12w. Dry. T.D. 1,413 ft.

Kent County

Caledonia Township: Homer Fulton, 1 B. Glick, NW SE NE 28-5n-10w. Dry. T.D. 1,972 ft.

Walker Township: Production ranged from 21 to 200 bbl. a day after acid treatment to 120 bbl. naturally from the five producers completed in the Walker field.

Smith Pet., 2 McShane et al, NE NE SE 32-7n-12w. 200 bbl., T.D. 1,886 ft.

Harry T. Hanover, 1 McKay, SE SW SW 19-7n-12w. 21 bbl., T.D. 1,922 ft.

Wolverine, 4 George Burgess, NE NE NW 32-7n-12w. 25 bbl., T.D. 1,906 ft.

Smith Pet., 8 F. J. Cudahy et al, N½ NE NW 33-7n-12w. 50 bbl., acid, T.D. 1,942 ft.

Smith Pet., 1 VanEuwen-Zeeff, NE SE SE 32-7n-12w. 120 bbl., natural, T.D. 1,787 ft.

Lake County

Pinora Township: Taggart Brothers, 1 Lindner et al, SE SW SE 25-18n-11w. Dry. T.D. 1,441 ft.

Lenawee County

Macon Township: Lenawee, 1 R. J. and M. Carberry, NW NE NW 36-5s-5e. Dry. T.D. 2,520 ft.

Monroe County

Ida Township: Jacob Beck, 1 Mrs. James Sancrant, NW SW NW 19-7s-7e. Dry. T.D. 2,825 ft.

Oakland County

Springfield Township: J. V. Wicklund Development Co., 1 Dhroner, NE SE SW 2-4n-8e. Temporarily abandoned, T.D. 1,642 ft.

Ottawa County

Jamestown Township: Gould & Cross, 1 Agnes Schneider, SW SW SE 35-5n-13w. Dry. T.D. 1,682 ft.

Tallmadge Township: Turner, 4 F. T. White, SE SE SW 14-7n-13w. 50 bbl., acid, T.D. 1,876 ft.

Van Buren County

Columbia Township: Clapsaddle & Harris, 1 Ruth de-Rocher, NE NW NE 24-1s-15w. 30 bbl., acid, T.D. 1,210 ft.

Trucks to Pay Extra $30,000,000 In National-Defense Taxes

An additional $30,000,000 will be collected annually from truck operations through the national-defense automotive taxes enacted by Congress. Of that amount approximately $26,000,000 will be in the extra gasoline tax, and the other $4,000,000 will be produced by the increases in levies on lubricating oil, tires, new motor vehicles and accessories. In 1939 motor trucks accounted for $270,679,591 of federal and state gasoline taxes, according to the Automobile Manufacturers Association. The estimated $26,000,000 of additional gasoline-tax revenue to result from the national-defense tax is equivalent to nearly 10 per cent of the 1939 gasoline-tax bill of motor trucks.

Under the higher national-defense automotive levies the annual total of motor-truck taxes accruing to the federal Government will stand at more than $100,000,000 annually. That figure does not include social security, corporate income and other federal levies assessed on business generally. Special state automotive taxes on trucks currently approximate $350,000,000 annually.

Shell Gasoline-Line Department To Be Moved to New York

The gasoline pipe-line department of Shell Oil Co., Inc., is to be moved to New York during the later part of the summer. It is expected that moving will be completed by September 1.

By

T. R. INGRAM

Colorado Wildcats Interest Rocky Mountain Operators

DENVER, Colo., Aug. 5.—The C. D. Cunningham test on Round Butte, northern Colorado, ran into overlapping Tertiary beds and was abandoned. Carter Oil Co. is searching for old shore line in exploratory work in Otero County.

Lance Creek had one completion in A. B. Cobb, 6 Novick, for 18 bbl. an hour, an offset to a dry hole. Lance Creek operators are meeting to thresh out all differences, including price adjustments. Worth Garretson, 1, northwest flank, LaBarge field, was dry and abandoned, probably marking limits of the northwest extension.

Cut Bank had three completions, a 75-bbl. well for Steele Creek Production in its No. 3 Carmen; a 100-bbl. well for Montana Headlight in its No. 6 Britton, and a 100-bbl. well for Santa Rita in its No. 11 Tribal. Kevin-Sunburst had four completions, one a dry hole and three ranging from 35 to 109 bbl.

New operations include a wildcat on Webster Hill, Garfield County, Colorado, by Joe T. Juhan, three in Lance Creek, four in Osage, six in Cut Bank and three in Kevin-Sunburst.

COLORADO

Drilling operations of the Carter Oil Co. in the Timpas area, Otero County, 25 miles southwest of La Junta, are resulting in numerous inquiries, but the company is not making public any information as to the location of the wells, depths and results. It is understood that the testing is not in search of oil, but solely for geological information. Somewhere in eastern and southeastern Colorado there is believed to exist a shore line of an ancient sea which, when once located, may solve the riddle of the location of oil pools believed to exist in that region. The Carter operations are supposed to be directed toward the location of the old shore line.

El Paso County

F. F. Hintze, 1 State .....CEL SE SE 16-11s-60w
S.D. 1,620 ft. for 6⅝-in. to run and carry as cave string; W.S.O. at 1,550 ft. with 8¼-in.; bttm. in dk. sdy. sh.

Garfield County

Joe T. Juhan and associates have rig up for test on the Webster Hill structure, 5 miles southwest of Rifle, western Colorado, and 18 miles northeast of the old De Beque gas field. It is an egg-shaped dome 4 miles long and 3 miles wide inside the closure and is located on the fold trending from the White River and Piceance Creek fields on the northwest to Divide Creek on the southeast. The White River of Tertiary age is at the surface and first objective is the Cretaceous contact at around 2,200 ft. Geology by Roy Holloman, of Denver.

Juhan, 1 Gov't. .....NW SE 22-6s-94w
Rig (first report).

Larimer County

C. D. Cunningham, 2 State-Warren, CWL SE NW 6-11n-68w, Round Butte structure, was plugged and abandoned at 290 ft. when it ran into sandy shale of overlapping Tertiary beds. Rig was skidded to SE SW NE Section 6, within 15 ft. of the old California Co. test, and core barrel picked up Tertiary-Cretaceous contact at 256 ft. It was found to be running low and the operation was abandoned.

Continental, 2 Larson .....SE NW SW 19-8n-68w
T.D. 5,685 ft.; swbg. to test Dakota at 4,682-85 ft.

Moffat County

Texas, 2 Wick .....Lot 9, 10-4n-91w
T.D. 3,935 ft.; cmtd. with 30 sacks; drlg. out cmt. at 3,904 ft.
Mountain Fuel Supply, 2-A Kuykendall.....
SW NW NW 23-12n-100w
T.D. 2,600 ft.; cmtd. 6¼-in. at 2,596 ft.; perf. and tstg. in three sds. by stages.
Mountain Fuel Supply, 6 Wilson .C Lot 2, 14-12n-100w
Rig; W.O. tools from No. 2 Kuykendall.

Rio Blanco County

Buford Oil, 1 Government .....SW SW 16-1n-91w
T.D. 4,160 ft.; S.R. at 3,885 ft.
Texas-California, 4 Unit .....NW NW NW 2-2n-94w
T.D. 788 ft.; cmtd. 13⅜-in. at 771 ft. with 440 sacks.

WYOMING

Albany County

Ohio, 1 Coughlin .....SW NE NW 26-16n-77w
T.D. 4,345 ft.; P.B. to 3,860 ft.; pulling tbg. to C.O. and continue tstg.

Big Horn County

Ohio, 3 Davis .....NW SW NW 34-56n-97w
Drlg. 3,860 ft.

Carbon County

Sinclair-Wyoming, 14 Unit .....NW SW NE 7-26n-89w
T.D. 6,801 ft. in sd.; T. Tensleep at 5,740 ft.; drlg. and tstg. by stages.

Crook County

Vickers Pet.-Continental Oil, 1 Duncan-Lobban....
NE NW SW 28-57n-64w
S.D. 125 ft. for csg.

Fremont County

Sinclair-Wyoming, 2-A Muskrat NW SE SW 34-34n-92w
Drlg. 3,745 ft. in sh.

Natrona County

Royalty Oil Corp., 1 Midert, Airport area, near Casper, is bottomed in upper section of blue Steele shale at 1,487 ft., and estimated at 100 ft. above its objective, the Shannon sand. Operations have been resumed at this depth after shut down to install steam power.

Royalty Oil, 1 Midert.....SW SW SW 26-35n-80w
T.D. 1,487 ft.; C.O. at 1,405 ft.
General Pet., 7-21-G.....NE NE NE 21-35n-77w
Rdy. to spd.
Stanolind, 8 Unit .....NW NE 26-40n-79w
T.D. 2,900 ft.; lost circ.; Dakota at 2,315-25 ft.; T. Lakota 2,403 ft.; in second Sundance at 2,818 ft.
General, 51-21-G .....NW NW NE 21-35n-77w
T.D. 4,535 ft.; T. Shannon sd. 4,492 ft.; cmtd. 7-in. at 4,487 ft.; tstg.
Lewis Gebhart, 1 Government NW NE SE 10-39n-78w
Drlg. below 1,379 ft. after landing 10-in.

Niobrara County

A meeting of representatives of all operators in Lance Creek is in progress at Denver in an attempt to straighten out differences between the Government and the operators and between members of the unit and the independents and to reach a general adjustment. The primary purpose of the meeting was to reach some kind of agreement regarding the price of crude, but it is reported that before this can be done, a general settlement was insisted upon by the Standard Oil Co. of Indiana before it would agree to any revision of its contract for crude.

On July 1, 1939, the Department of the Interior established a price of $1.14 for 40-gravity royalty crude from government land as against a posted price of 77 cents. Earlier in the development of the field the Standard of Indiana made a contract for crude which was below the Mid-Continent posted price, the differential being agreed to by the operators and the Government in order to establish a market for oil from the field and to warrant the Standard company in expending several millions of dollars in revamping its trunk line from Wyoming to the truck-line connections in Missouri. This deal was with the unit operators, the Ohio, Continental and Argo companies. Subsequently there was considerable crude developed outside the unit in a deeper horizon by independent operators. The latter formed an organization and moved to obtain better prices.

It is understood that a basis of settlement was reached some time ago which provided tentatively for a price of 90 cents a barrel for the year ended July 1, 1940, when it would be raised to 95 cents for a year and thereafter would take the Mid-Continent scale. The Department of the Interior is said to have been favorable to such an agreement. The meeting at Denver was called to consider this compromise. However, other issues have been injected into the situation. Negotiations have been pending between the unit and the independents for some time looking to the repressuring of the Leo horizon. Also, the Government stepped in and set up claims to title on certain land in the field which was taken up years ago under the old placer-mining laws.

A. W. Peake, vice president of Standard of Indiana, in charge of production; Thomas A. Dines, president, and A. N. Johnson, secretary of the Utah Oil Refining Co.; W. H. Ferguson, executive vice president of Continental, and others are taking part in the meeting, including the independents.

Lance Creek had one completion in A. B. Cobb, 6 Novick, SE NE NW 6-35n-65w, which made 18 bbl. an hour from the Leo sand at 5,509-55 ft. after acidizing with 1,000 gal. The well is an outpost on the west side and an interesting test. It is a south offset to Cobb, 5 Novick, which was abandoned at 5,601 ft. after going out of the red beds into black shale of Cretaceous age, indicating its location is an underthrust fault block. It is also a diagonal offset on the southwest to Continental, 6 Sam Joss, which was rated at 600 bbl. per day from the Leo sand. It is only 1,200 ft. west of Continental, 3 Joss, one of the largest Sundance sand wells in the field at the time of its completion in 1933, being estimated at 4,000 bbl. per day.

Three new operations were reported.

Argo Oil, 14-A Elliott.....5-35n-65w
Cmtd. 13-in. at 311 ft.; W.O.C. (first report).
Ohio, 17 Putnam .....NW SE SW 33-36n-65w
B.R. (first report).
Ohio, 8 Agnes Rohlff.....NW SW NE 32-36n-65w
Rng. rig found (first report).
Minnelusa-MacKinnie, 6 Thompson.....
NE NW SE 7-35n-65w
Reported showing 50 per cent water in Leo in new hole; depth not given.
Ohio, 15 Lamb, Acct. 1.....NW SE SE 32-36n-65w
T.D. 5,400 ft. in Leo sd.; tstg.
Continental, 19 Tom Bell .....NW NE SE 33-36n-65w
T.D. 5,322 ft.; tstg.; swbd. 177 bbl. in 24 hrs.
Ohio, 16 Lamb-1 .....NW NE NE 5-35n-65w
T.D. 5,628 ft.; P.B. to 5,480 ft.; perf. csg. at 5,433 and 5,377 ft.; tstg.
Ohio, 16 Putnam.....SW SW NW 4-35n-65w
T.D. 5,529 ft.; P.B. to 5,391 ft.; tstg.
H. D. Moore, 1 Berggren.....SE NW 23-35n-63w
S.D. at 2,676 ft.
Ohio, 7 Rohiff.....NW NE SE 32-36n-65w
Drlg. 5,255 ft.; cmtd. 7-in. at 5,348 ft.; will D.D.
Continental, 7-A Dielman.....NW NE NW 8-35n-65w
T.D. 5,385 ft.; swbg. and tstg.; swbd. 160 bbl. in 10 hrs.

Park County

V. M. Kirk, 3 Government...NW NW SW 24-58n-98w
Drlg. 2,424 ft.
Yale Pet., 1-B Frisby.....SW NE NE 31-52n-100w
Drlg. 3,380 ft.
Kinney-Coastal, 4 Government.... SE NW 13-56n-98w
Drlg. 170 ft.; cmtd. 10¾-in. at 96 ft.
Resolute, 2 State .....SW SW 16-57n-101w
Drlg. at 9,800 ft.

Platte County

Dividend O. & R., 1 Johnson..CSL NW SW 17-24n-66w
Drlg. 3,615 ft. in L.

Sublette County

Worth Garretson et al, 1, NE NW SE 28-27n-113w, outpost well on northwest flank of the LaBarge field, was abandoned at 1,362 ft., after failing to find commercial production. It is one-third of a mile west of several wells completed in the past few months marking an extension of the field on the northwest.

Texas, 1-F.....SW SW SW 27-27n-113w
Loc. (first report).
Texas, 1-H .....CWL NW SW 27-27n-113w
Drlg. 1,096 ft.
North La Barge Oil, 4 Govt. . CSL SE NE 28-27n-113w
T.D. 1,177 ft.; tstg. S.O., 50 per cent wtr.
Marvel Oil, 4 Government....SE NE SE 28-27n-113w
Rig.
North La Barge Oil, 1 Govt....NE SE NE 28-27n-113w
Drlg. 1,080 ft.

Sweetwater County

Union Gas, 1 Hummer.....NW NW NE 6-17n-103w
Drlg. 1,920 ft.
Mountain Fuel Supply, 1 Murphy SE SE SE 27-17n-104w
S.D. at 4,156 ft.
Sinclair-Wyoming, 94-A .....NW NW NE 10-26n-90w
T.D. 1,844 ft.; cmtd. 7-in. at 1,842 ft.; prep. to perf. and tst. Dakota and Lakota.
Gus Pongratz et al, 1 Clark.....NW NE 22-19n-104w
Drlg. 3,200 ft.; T. Dakota 3,145 ft.
Red Desert Corp., 1 Aspden..NW SW NW 34-18n-103w
Drlg. 2,075 ft.
Vermilion Oil, 2 Government...SW SW SW 7-12n-99w
S.D. 3,002 ft.

Weston County

Osage Trust, 8.....SW SW SE 8-46n-63w
Drlg. 350 ft. (first report).
Joseph Dornacker, 1 Kinney-Collins NW NE 33-45n-61w
Spdg. (first report).
Duluth-Wyoming, 5.....SE SE SW 12-46n-64w
Loc. (first report).

Lanam Crowley, 1.....SW SW NW 8-46n-63w
R.O.G. (first report).
Riggs Oil, 4 Government.....CNL NE SE 16-46n-64w
M.I.M.
Charles Stough, 12.....CWL SW NW 4-46n-63w
T.D. 150 ft.; trying to free casing.
Pierre La Fleishe, 1 Dober.....NE NE NE 21-45n-63w
Drlg. below 500 ft.
John Brorphy, 1 Hansen.....NW NE NW 13-44n-63w
Drlg. below 1,000 ft.; carrying 10-in.
Wheedon Oil, 6 State.....CSL NW NE 16-46n-63w
Drlg. at 150 ft.

MONTANA

Carbon County

Continental, 1 Prigge.....SE SE SE 33-9s-25e
Drlg. 1,560 ft. in sdy. sh.
R. C. Tarrant, 2 McKay.....SE NW 4-6s-18e
S.D. at 3,057 ft.; W.O. rotary.

Glacier County

Steele Creek Production, 3 Carmen, SE SE NW 19-34n-5w, swabbed 75 bbl. first 24 hours at 2,810 ft., total depth, from the Cut Bank sand at 2,775-90 ft. Sunburst at 2,710-54 ft. was dry. Seven-inch was at 2,775 ft.

Montana Headlight Oil, 6 Britton, NW SW SE 11-34n-6w, swabbed 100 bbl. first 24 hours at 2,885 ft., total depth, from the Cut Bank sand at 2,852-80 ft. Main pay was at 2,858-80 ft.

Santa Rita Oil & Gas, 11 Tribal, NE NE NE 16-35n-6w, swabbed 100 bbl. first 24 hours at 2,990 ft., total depth, from the Cut Bank at 2,960-88 ft. Main pay was at 2,968-88 ft. Sunburst at 2,930-45 ft. had a show of oil. The 7-in. is at 2,872 ft.

Hannah-Porter, 5 Allot.-130....CWL NW SE 6-32n-5w
B.R. (first report).
Kately Agt., 1 Thayer.....NE SE NW 15-34n-6w
Spdg. 60 ft. (first report).
R. C. Tarrant, 2 fee.....NW NW SE 19-34n-5w
Loc. (first report).
Texas, 6 Curran.....C SW NE 8-32n-5w
R.U. (first report).
Texas, 9 Unit-9.....C NW SW 9-32n-5w
Loc. (first report).
Texas, 7 State.....C SE NW 16-32n-5w
Loc. (first report).
Texas, 3 Bonnett.....NE SE 8-32n-5w
Drlg. 1,030 ft.; Colo. 615 ft.; 10¾-in. at 661 ft.

Pondera County

R. C. Tarrant, 1 Land.....SE SE NW 14-31n-5w
Spdg. 235 ft.

Stillwater County

Texas, 1 Unit.....SE NW 10-4s-19e
R.U.R.

Toole County

Kevin-Sunburst had four completions and three new operations.

H. O. and C. D. Stock, 1-A Government, SE NW SE 17-35n-2w, was plugged and abandoned at 1,654 ft., total depth, after acidizing and failing to get results. Contact was at 1,630 ft.

Silver Oils, Ltd., 3 Haskins, NE SW SW 25-36n-2w, pumped 60 bbl. per day at 1,620 ft,. total depth, from the Sunburst at 1,591-1,620 ft.

Texas Pacific Coal & Oil, 11 Howling, SE SE NE 9-35n-2w, pumped 109 bbl. at 1,673 ft., total depth, from breaks in the lime after acidizing with 500 gal. Contact was dry at 1,643 ft.

Coolidge & Coolidge, 2 Midland Realty, NW SE SW 25-36n-2w, made 35 bbl. a day from the Sunburst at 1,621-50 ft.

Kippen Oil & Gas, 2 Solberg...CSL NW NE 20-35n-3w
Drlg. 420 ft. (first report).
L. J. Yealy, 15 Shaw.....SW NE NW 35-36n-2w
Drlg. 310 ft. (first report).
Texas, 14 Bruin.....NE NE SE 9-35n-2w
Loc. (first report).
Twin Fields Oil, 2 Govt.....SE SE SW 21-35n-3w
Drlg. 1,450 ft.
Pacific National, 9 Govt.....NE SE SE 8-35n-2w
Drlg. 640 ft.
Enfield, 3 Zachor.....C NW NW 20-35n-1w
Drlg. 1,320 ft.
Big West Oil, 17 Dalhousie....SE NW NE 28-35n-3w
T.D. 1,717 ft.; contact 1,700-17 ft.; 800 ft. O.I.H.; will test before acd.
Lion Oil, 5 Haugen.....NW SE SE 11-35n-3w
T.D. 1,756 ft.; contact 1,733 ft.; break 1,754-56 ft.; S.O.; acd. 500 gal.; tstg.
A. E. Crumley & Son, 20 Fryberger.....
SW SW NE 24-35n-3w
Drlg. 750 ft.
Coolidge & Coolidge, 8-A State..NW SE NW 36-36n-2w
Drlg. 100 ft.
Morton O. & R., 9 Morton.....NW NW SE 13-34n-2w
S.D. 1,140 ft.
Twin Falls Oil, 1-A Govt.....NW NW NW 28-35n-3w
S.D. 1,732 ft.
Wm. Hanlon et al, 1 Merton Mortgage SW SE 6-37n-1w
T.D. 2,250 ft.; fsg.
Prevol & Shay, 1 Govt.....NE NW SW 11-35n-3w
Drlg. 1,530 ft.

NORTHWEST NEW MEXICO

McKinley County

Teague, Greer, 1 Santa Fe.....33-18n-10w
S.D. 920 ft. for csg.
Petroleum Producers, 8 State.....SE SW 36-18n-9w
T.D. 1,578 ft.; tstg.
Petroleum Producers, 9 Hospah..NW NW SE 1-17n-9w
Spdg.
Petroleum Producers, 10 Hospah CEL SE SW 36-18n-9w
Bldg. derrick.

San Juan County

Continental, 108 Rattlesnake, NE NE 11-29n-19w, Rattlesnake pool, had water in the Dakota at 855 ft., total depth, and was plugged and abandoned.

Claude Carroll, 1 Cornell.....SW NE 11-29n-12w
Drlg. 1,050 ft.
Kutz, 1 Government.....NW NW 28-28n-10w
Drlg. at 1,500 ft.

San Miguel County

Southwest Drlg., 1 Conchas.....NW NE 34-17n-21e
Drlg. 2,400 ft.

UTAH

Box Elder County

Utah Dutchess, 1.....NW cor. 26-14n-8w
Drlg. 400 ft.

Daggett County

Mountain Fuel Supply, 5 Murphy SW NE SW 15-3n-24e
Drlg. 2,430 ft.

Grand County

Reeder Corp., 1 State.....NE NE NE 16-22s-19e
T.D. 1,060 ft.; fsg.

Summit County

Longwell Pet., 1.....SE SW SE 35-3n-5e
T.D. 3,300 ft. in sd.; U.R. 4¾-in. to bttm.

North Texas Fields

(Continued from Page 86)

first 2 hours the well made 5.2 bbl. of oil with casing pressure being 165 lb. and tubing pressure 60 lb. This flow held until the 2-hour period between 10 p.m. and midnight Thursday during which time the well made 7.8 bbl. under slightly higher pressures of 200 lb. on tubing. The pressure held at this level during the following 7 hours and 45 minutes with the output the last hour and 45 minutes being 5.2 bbl.

It is believed probable that the operators will acidize the pay, since acidization more than tripled the production of the Pettit lime discovery at Chapel Hill last winter.

Gulf Oil Corp., which had assembled considerable acreage around the well while it was shut in during the past several months, is reported to be negotiating with H. S. Moss for the discovery well and the operator's block. Gulf holds offset acreage to the west of the well.

New Wildcats

New wildcat tests were staked during the week in Falls, Limestone, Morris, Navarro and Wood counties, the majority of them being contracted to the Woodbine sand.

Falls County's test is projected to the Edwards lime and is Joy Carruth, 1 Westbrook, Manchaca Survey, 3½ miles northeast of the town of Chilton. Rigging up is under way.

Limestone County was given a new operation when Frank Bryant staked his No. 1 F. Bevill, J. H. Murray Survey, 1 mile southwest of Horn Hill. It is contracted to the Woodbine sand.

A long awaited wildcat test in Morris County was staked during the week by C. B. Zuber as his No. 1 G. A. Connor, N. Smithwick Survey, 5½ miles southwest of the town of Dangerfield. It is projected to the Woodbine sand.

Navarro County's new test is A. J. Willis, 1 Cheney, W. Reed Survey, 12 miles southeast of the town of Corsicana.

In Wood County Plains Production Corp. has located its No. 1 S. I. Smith, a Woodbine sand wildcat, in the S. Calderon Survey, 5 miles northwest of the town of Quitman.

EASTERN TEXAS COMPLETIONS

EAST TEXAS FIELD

(1-hour gage)

Gregg County

Longview area: F. H. E. Oil, 5 Clements, 60 bbl., 3,552-70 ft.
T. W. Lee, 12 Bumpass, 44 bbl., 3,535-55 ft.
Kilgore area: Harcher Oil, 2 Crim, 30 bbl., 3,541-53 ft.
Harcher Oil, 3 Laird-Moses, 32 bbl., 3,545-66 ft.
Harcher Oil, 4 Elder, 40 bbl., 3,537-88 ft.
M. E. Moses, 1 Moses-Laird, 60 bbl., 3,545-72 ft.

Upshur County

Longview area: Phillips, Jr. & Long, 1 Colby, 40 bbl., 3,617-19 ft.

EAST CENTRAL TEXAS

(24-hour gages)

Anderson County

Cayuga field: Clark & Cowden, 1 Kirby-Barton, 59,000,000 cu. ft. gas, 4,055-65 ft.

Bowie County

Wildcat: Shell, 1 Wall, dry, T.D. 6,222 ft.

Franklin County

Talco field: Texas, 16 Barker, 120 bbl., 4,184-4,286 ft.

Red River County

Wildcat: Joe White, 1 Kurth Lumber Co., dry, T.D. 2,139 ft.

Titus County

Talco field: Humble, 3 Bialock, dry, T.D. 4,388 ft.

WILDCAT OPERATIONS

Falls County

Joy Carruth, 1 Westbrook, Manchaca Sur., 3½ miles NE of Chilton. Loc.

Freestone County

L. F. Grey, 1 O. B. Utley, S. J. Claypool Sur., 4 mi. N of Fairfield. Drlg. 3,258 ft.

Henderson County

E. B. LaRue, 1 R. H. Davis, E. G. Harris Sur., 3 mi. NE of Stockard. Top Austin 3,510 ft.; top Woodbine 4,494 ft.; coring below 4,525 ft.

Kaufman County

T. G. Shaw, Tr., 1 Agnes Wynne, B. S. Newman Sur., 8 mi. E Kaufman, lower Trinity test. T. anhy. 5,934 ft.; T. Massive 6,123 ft.; B. Massive 6,255 ft.; T.D. 6,454 ft.; milling on junk 6,454 ft.

Leon County

Alexander & Wilhite, 1 C. H. Mills, M. Copeland Sur., 2½ mi. E of Normangee. S.D. 527 ft.

Limestone County

Frank Bryant, 1 F. Bevill, J. H. Murray Sur., 1 mi. SW Horn Hill. Loc.

Morris County

C. B. Zuber, 1 G. A. Connor, N. Smithwick Sur., 5½ mi. SW Daingerfield. Loc.

Navarro County

A. J. Willis, 1 Cheney, W. Reed Sur., 12 mi. SE Corsicana. Loc.

Rusk County

J. S. Harrold, 1 M. J. Armstrong, M. D. Carmel Sur., 3 mi. SE Henderson. Top Massive anhy. 6,125 ft.; drlg. 6,800 ft.

Upshur County

H. C. McGahey, 1 Ludie Turner, SE cor. 200-ac. tr. in A. Butler Sur. Moving in rig.

Wood County

Plains Prod., 1 S. I. Smith, S. Calderon Sur., 5 mi. NW Quitman. Loc.

Illinois Fields

(Continued from Page 73)

Crawford County

Dorning & Leaser 1 Ducommun N½ NW NW 31-6n-12w
Salem 1,821 ft., Chattanooga 2,522 ft., Devonian 2,675 ft., cored 2,168-71 ft., recovered 1 ft. tight dolomite with small show of oil.
Kidd & Thomas, 1 Headley.....SE SW SW 8-7n-11w
Ste. Genevieve 1,485 ft., show oil 1,500-02 ft. and 1,515-17 ft., ran 6⅝-in. casing to 1,485 ft., tested water.

Effingham County

Kingwood, 1 Wolfe.....SW SW SE 14-5n-7e
Ste. Genevieve 2,820 ft., Rosiclaire 2,835 ft.
Turner, 1 Pruett.....SE SW NE 7-5n-3e
T.D. 825 ft., running 8-in. casing.

Ford County

Nelson et al, 1 Urp.....SW NW SE 19-24n-7w
Drilling at 1,285 ft.

Iroquois County

Whitlow, 1 Gannon.....NE SW SE 5-27n-12w
Drilling at 1,470 ft.

Jackson County

Mannellin, 1 Baysinger.....SW SW SW 32-10s-3w
Running 8-in. casing to 1,260 ft., T.D.

Lawrence County

Robinson, 1 Sauers.....NW SE NE 20-3n-12w
Fredonia 1,884 ft.
Payne, 1 Manjar.....SW NE NW 28-4n-11w
Fredonia 1,761 ft., McClosky 1,766-68 ft., showed water and shut down.

Marion County

Paul Jones, 1 Fyke.....NE SW NW 32-2n-1e
Shut down at 1,120 ft.

Montgomery County

Babler Investment, 1 Street....SW SW NE 31-11n-5w
Saturation 610-16 ft., ran 6¼-in. casing to 610 ft., bailed 3 bbl. oil and small amount of water for 3 hours, pumping an estimated 75 bbl. per day, but is not yet marked a completion.
Randall & Witt, 2 Street.....N½ NE SE 31-11n-5w
Hole full of water at 1,195 ft.

Richland County

Pure, 1 Hernicle.....W½ NW SW 32-5n-10e
Glen Dean 2,286 ft., drilling at 2,350 ft.

St. Clair County

Harris et al, 1 City Park.....NW SE 34-2s-9w
Drilling at 1,350 ft.

Shelby County

Leroy Trulock, 1 Lantz.....SE SE SE 36-13n-2e
Drilling at 984 ft.
Walker, 1 Odell.....E½ SE NW 20-14n-2e
Devonian 2,220 ft., had show oil running casing.
Turner, 1 Hoagland.....NW NW SW 14-9n-2e
Tested show at 1,978-80 ft., and was drilling at 2,001 ft.

Wabash County

U. S. Oil, 1 Stillwell.....SW NW SE 7-1n-11w
Shut down for orders at 1,471 ft.
Frank Tatum et al, 1 Ewalt....NE SW SW 34-1s-13w
Menard 1,840 ft.
Dan Whatley, 1 Featherly.....SE NE SE 28-1s-13w
Fredonia 2,655 ft.

By F. L. SINGLETON

Extensions and New Sands Feature Increased Activity

CORPUS CHRISTI, Tex., Aug. 5.—A new field in Nueces County; major extension of production at East Flour Bluff, in the same county, and at Rincon, Starr County, with smaller extensions at various other fields; opening of a new shallow sand at White Creek, Live Oak County, and generally increased wildcat exploration seemed certain over the week end as important wildcat and field developments for the lower Gulf Coast and Southwest Texas district.

Fred Shield, 1 Moore estate, a wildcat in the Dolores I.&G. Survey, Section 143, 3 miles southwest of the Baldwin field, gave indication of opening the new field in Nueces County. Over the week end, it was testing sand in which casing had been perforated at 6,622-26 ft., and was flowing about 5 bbl. of fluid per hour through a ⅛-in. choke. The fluid was oil and wash water. Working pressure on the tubing was 550 lb. with shut-in casing pressure 825 lb. The oil is 42 gravity.

The well was drilled to a total depth of 6,762 ft., finding sand showing oil at 6,603-60 ft., in which the casing perforations were made. Five and a half inch casing was cemented at 6,652 ft. Should a good well be completed, a competitive drilling campaign might be expected as acreage around the well is divided among a number of companies and independents.

For the recently opened East Flour Bluff field, also in Nueces County, a 7,800-ft. westerly extension was in prospect as a result of a drill-stem test made in a sand showing oil at 6,788-6,803 ft. encountered in Humble, 1 Duncan, F.B.E.F.&G. Survey, Block 20, Section 54. A 20-minute drill-stem test was made through ¼-in. chokes on bottom and top, showing a working pressure of 95 lb. Thirty feet of oil and mud, 1,700 ft. of oil and 100 ft. of gas-cut mud was recovered. Hole is being cored deeper.

The sand in this well is at the same depth at that of the discovery well, Humble, 1 State, located as a maritime operation in Laguna Madre, which was completed at 6,790-6,800 ft. last May. The Duncan well is approximately 3,500 ft. from main Flour Bluff field, but is believed to be cut off from that field by a fault. It lies between the Flour Bluff field and the East Flour Bluff discovery well.

Rincon Field Extension

At Rincon, eastern Starr County, in the Valley region, Complete Oil Well Service, 1 Yzaguirre, Section 227, a mile east of the northernmost production, is showing for an extension producer. It cored sand showing oil at 4,606-20 ft., in which a 20-minute drill-stem test was made, recovering 410 ft. of oil and 100 ft. of salt water. The test showed a working pressure of 50 lb. with ¼-in. chokes on bottom and top. The hole was cored and drilled to 5,258 ft., where 5½-in. casing was cemented.

A westward extension for the Rincon field also is in the making with Davis, 32-B Slick estate showing for production. This well is located at the extreme southwest end of the main producing area. In a 17-minute drill-stem test of sand at 4,091-4,120 ft., with ¼-in. chokes, it showed 60 lb. working pressure, and 60 ft. of oil mud, 355 ft. of oil and 5 ft. of drilling water was recovered. At latest report it was shut down waiting orders. Bottom of hole is 4,356 ft.

Three-quarters of a mile southeast of 3,800-ft. production of the Clara Driscoll field, Nueces County, Fred Wood and W. L. Hinds were trying to complete their No. 1 Driscoll as an extension of that sand. The well had the sand at 3,790-3,806 ft., on which casing was cemented. At late report it was flowing some oil and wash water while cleaning.

A. D. Corgey and associates are rigging up for a wildcat test 4 miles south of Clarkwood, Nueces County. It is No. 1 Gallagher estate, City of San Antonio Survey, spotted 467 ft. from the north and west lines of the tract, or 4,000 ft. from the southerly south line of the survey and 2,000 ft. east of the westerly east line of Survey 154.

Texas Conservative, 1 Isensee, a mile east of the Robstown townsite and field, is shut down waiting orders at contract depth of 7,505 ft. Operators are considering the advisability of plugging back for a drill-stem test of a sand at 5,975-81 ft.

Stratton Field

Southern Minerals, 2 Bertrand, 933 ft. south of No. 1 Bertrand, discovery oil producer of the Stratton distillate field, Nueces County, tested salt water after perforating in sand at 6,915-23 ft., and plugged back to the discovery sand. Perforating in this at 6,420-28 ft., it teated gas, and is squeezing perforations. The discovery well was completed in the sand perforated at 6,381-6,410 ft. Conroe Drilling, 1 Sellers, north offset to the discovery well, which also tested gas with a spray of oil in the discovery sand through perforations at 6,381-87 ft., has squeezed perforations and is drilling deeper with the 6,900-ft. sand as the goal. S. E. W. Oil, a half mile east of the field, has spudded. Southern Minerals has made location for No. 3 Bertrand, 933 ft. south of No. 2, and 467 ft. east of the west line of Section 293, Bishop subdivision.

In the White Creek field, Live Oak County, White & Seacord, 4 Marsden and Davis, Tract 3010, Block 5, B.S.&F. Survey 1 is testing a sand at 1,296-1,300 ft. through perforations in casing at that level. It bailed at the rate of 195 bbl. daily without show of salt water. This is the first production in the White Creek or Ezzell field from this sand, which is about 100 ft. shallower than the regular sands. Gravity of the oil is 20.4°.

Humble Oil & Refining Co. has abandoned its No. 1-B State-Nueces Bay Tract 706, in Nueces Bay between the East White Point and Saxet fields. It twisted off 87 ft. drill stem at a total depth of 6,500 ft. Failing to recover the fish, it cemented hole to 6,273 ft. with a view to sidetracking but was unable to do so.

A succession of completions was reported from the Wade City field, Jim Wells County, where spread of development is following repeated extensions. Several wells also are in process of completion in the adjoining Orange Grove field.

SOUTHWEST TEXAS COMPLETIONS

LAREDO DISTRICT

Duval County

Driscoll field: Continental, 52-A Clara Driscoll, perf. 3,350-60 ft., 143 bbl., ¾-in. choke.
Casa Blanca field: Adelon, 1-A Martin, 1,131 ft., 20 bbl., ¼-in. choke.
Hoffman field: Magnolia, 13 Well, 2,814 ft., 20 bbl. and 6,500,000 cu. ft. gas, open.
Magnolia, 17 Well, 2,665 ft., 129.78 bbl., ⅜-in. choke.
Lundell field: Magnolia, 4 Duvall ranch, 1,530 ft., 42 bbl., jetting.
Tarancahuas field: Cox & Hamon, 8 Hoffman-Gorman, 2,053 ft., 188 bbl., ⅜-in. choke.
Cox & Hamon, 10 Hoffman, perf. casing 2,071-76 ft., 147 bbl., ⅜-in. choke.
Wildcat: Blanchard, 1 Juan Perez, 4,516 ft., dry.

Hidalgo County

Samfordyce field: Royal, 1-C Chapa, perf. casing 3,440-43 ft., 86.06 bbl., 9/64-in. choke.

Jim Hogg County

Colorado field: Colorado Octane, 2-E Trevino, 2,983 ft., 250 bbl., ¼-itn. choke.
Humble, 17 Atwood, 3,099 ft., 55.22 bbl., pumping.
Neuhaus, 2-E Martinez, 2,983 ft., 338.25 bbl., ¼-in. choke.
Sun, 4 Thaxton, 2,972½ ft., 197 bbl., ¼-in. choke.
Manila field: Navarro, 1 Wood, 2,606 ft., 86.86 bbl., ¼-in. choke.
Wildcat: Humble, 3 Mestena, 5,115 ft., dry.

Starr County

Boyle field: Rutherford, 1-B Carruth, 4,515 ft., dry.
Sun field: Sun, 9 Speer, 4,945 ft., 247.51 bbl., ¼-in. choke.
Sun, 10 Olivarez, 4,640 ft., 163.43 bbl., 9/64-in. choke.
Wildcat: McCullom Oil Co., 1 Rodriguez, perf. casing 1,470-75 ft., dry.

Webb County

Glen field: Holland & Simmons, 6 Bruni, 2,190 ft., 96 bbl., pumping.
Holland & Simmons, 8 Bruni, 2,189 ft., 384 bbl., pumping.
Holland & Simmons, 3 Bruni, 2,188 ft., 288 bbl., pumping.
Holland & Simmons, 5 Bruni, 2,186 ft., 360 bbl., pumping.
Killam, 5 Bruni, 2,202 ft., dry.
Killam, 1 Puig, 4,250 ft., dry.
Transwestern, 6 Bruni, 2,165½ ft., 20 bbl. per hour, ¼-in. choke.
Volpe field: Magnolia, 42 Volpe-Benavides, 2,474 ft., dry.
West Cole field: Magnolia, 8 Benavides, 2,350 ft., 35.15 bbl., pumping.

Zapata County

Charco Redondo field: McCullom Expl., 1-A Gutierrez, 292 ft., dry.
Wildcat: Martin & Baker, 2 Serapio Vela, 1,500 ft., dry.

CORPUS CHRISTI DISTRICT

Jim Wells County

Orange Grove field: Magnolia, 2 Schmidt, perf. casing 5,073-78 ft., 85 bbl., 3/32-in. choke.
Alfred field: Republic Natural, 1-B Adams, perf. casing 4,688-91 ft., 117 bbl., ⅛-in. choke.
South Alfred field: Lewis Prod., 3 Adams, perf. casing, 87 bbl., 3/32-in. choke.
Wade City field: DeLange, 2 McNeil, perf. casing 4,930-35 ft., 287 bbl., ¼-in. choke.
Arkansas Fuel, 4 Mueller, perf. casing 4,800-08 ft., 144 bbl., ⅛-in. choke.
Henderson Coquat, 1 Laging, 4,794 ft., 91 bbl., ⅛-in. choke.
Henshaw Brothers, 3 Wendt, perf. casing, 4,896-4,904 ft., 256 bbl., 11/64-in. choke.
DeLange, 15 McNeil, perf. casing 4,913-18 ft., 227.62 bbl., ¼-in. choke.
Coquat & Quin, 4 Pundt, 5,023 ft., dry.
Wildcat: Howell, 2 Clara Driscoll, 6,423 ft., dry.

Live Oak County

Oakville field: Simmons, 15-B McGriff, 2,138 ft., 213.54 bbl., 8 per cent water, ⅝-in. choke.

Kimble County

Wildcat: Renfro, 1 Morales, 2,001 ft., dry.

Nueces County

Wildcat: Humble, 1-B State-Nueces Bay, 6,500 ft., dry.

Refugio County

La Rosa field: Coronado, 3-GS Michna, perf. casing 5,848-63 ft., gas and 1,800 bbl. dist., open.
Wildcat: Fech, 1 Zarsky, 6,505 ft., dry.

San Patricio County

McCampbell field: Southern Minerals, 7 McCampbell, perf. casing 7,124-29 ft. and 7,144-49 ft., 48 bbl., 5/32-in. choke.
Texas Atlas, 1 Brown, 7,525 ft., 85.42 bbl., ¼-in. choke.

Victoria County

Telferner field: Colton, 2 Strake, 2,777 ft., dry.
McFaddin field: Barnsdall, 37 McFaddin, 4,391 ft., 60 bbl., 7/64-in. choke.

SAN ANTONIO DISTRICT

Williamson County

Wildcat: Lanier, 1 Guentzal, 2,610 ft., dry.

Wilson County

Wildcat: Young, 1-A McMeans, 2,186 ft., dry.

Bexar County

Wildcat: Turner, 1 Brown, 4,023 ft., dry.

SOUTHWEST TEXAS WILDCATS

SAN ANTONIO DISTRICT

Atascosa County

Walton Drilling, 1 Tuerpe, Rogers Survey No. 517. Drilling 2,022 ft.; had Taylor marl around 1,975 ft.

La Salle County

Cullen, 1 Washburn Rand, H. & G. N. Survey 67. T.D. approximately 8,300 ft.; trying to recover stuck drill pipe.
Cullen, 1-B Wildenthal, Jr., McMullen & McGloin Survey. Coring for upper Wilcox 3,968 ft.

Lee County

Pederson, 1 Brown, D. Hudson Survey. Drilling hard sand 8,768 ft.

LAREDO DISTRICT

Brooks County

Sun, 1 Eldridge, Survey 16. Coring sandy shale 4,574 ft.
Sun, 1 Boedeker-State, C.C.S.D. & R.G.N.G. Survey 66, 15 miles south Falfurrias. Coring 4,668 ft.
West Prod., 1 Cage, G.C.&S.F. Sur. 37, 6 miles southeast Falfurrias. Drlg. 7,346 ft. sh.

Duval County

Douglas, 1 Dinn, A.B.&M. Survey 457, 3 miles NE Cole field. Rig.
Prescott Williams, 1 Lozana Taylor, El Mesquite grant. Shut down for repairs 2,487 ft.
Continental, 1-B Clara Driscoll, B.S.&F. Survey. Top Driscoll sand 3,312 ft. Drill-stem test sand 3,312-23 ft. dry; top Pettus 4,104 ft.; drlg. sdy. sh. 4,550 ft.

Jim Hogg County

Humble, 1-C Mestenas, Jose Marcelo Ynojosa Survey. Sh. 5,034 ft.; fishing drill collar and bit.
Patel Drillers, 1 Vela Pena, Survey 574. S.D.W.O. sh. 1,667 ft.; top Cole sand 1,598 ft.

Starr County

Sun, 1 Fateo Saenz, 2 miles east and north of Sun dis-

(Continued on Page 94)

Southwest Pennsylvania Tests Approach Objectives

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Aug. 5.—On Chestnut Ridge in South Union Township, Fayette County, Pennsylvania, New Penn Development Co., William E. Snee and others are drilling at 6,870 ft. deepening No. 2 Summit Hotel (Heyn) with the gas volume still increasing. The volume before the Oriskany sand was topped at 6,834 ft. was 1,120,000 cu. ft. a day and at 6,870 ft. it gaged 1,670,000 cu. ft. a day. The tools are 36 ft. in the sand and it is unusual for additional gas to be found that deep in the member.

During the past week 36 operations were completed of which 9 were dry, 13 gas wells, 4 input wells for water flooding, and 10 oil producers with a daily initial of 66 bbl.

SOUTHEAST OHIO

In Lot 1, Tract 1, Chardon Township, Geauga County, Ohio, the important test of the Carter Oil Co. on the George W. Cryle farm reached 2,240 ft. and will run casing at that point.

In Mahoning County the test of the Magnolia Petroleum Co. on the F. M. Fields farm, Section 19, Berlin Township, is drilling at 4,248 ft., or the lower portion of the Big lime. Both of these tests were located after extensive geophysical studies.

SOUTHEAST OHIO COMPLETIONS

Athens County

Waterloo Township: H. C. Williams, 1 J. H. Young, Hamley Run, Section 12, 1 bbl., shot first Berea at 1,062 ft.

Jefferson County

Saline Township: C. S. Kelly et al, 3 Ella Barnhouse heirs, SW Section 29, dry, Berea 1,310 ft.

Licking County

Fallsbury Township: Kundtz-Hulse, Inc., et al, 3 Ora and Ada Booth, NE Section 18, dry, Clinton 3,925 ft.

Meigs County

Sutton Township: Wilbur D. Roush et al, 1 fee, Lot 288, 1,000,000 cu. ft., Gordon 2,330 ft., drilled deeper.

Medina County

Chatham Township: DeFusto & Sawyer, 22-D George L. Allis, Tract 8, Lot 3, 2 bbl., Berea 409 ft.
DeFusto & Sawyer, 19-E, Tract 8, 419 ft., Berea, input well for water flooding.
DeFusto & Sawyer, 21-C, Tract 8, 390 ft., Berea, input well for water flooding.
DeFusto & Sawyer, 21-E, Tract 8, 400 ft., Berea, input well for water flooding.
DeFusto & Sawyer, 23-C, Tract 8, 391 ft., Berea, input well for water flooding.

Monroe County

Wayne Township: F. C. Paulus et al, 1 Jacob Strauch heirs, Section 27, 10 bbl., shot, Injun 1,613 ft.

Morgan County

Windsor Township: Helen J. Burt et al, 12 Charles Yarnell, Section 1, 1 bbl., shot, first Cow Run 520 ft.

Perry County

Coal Township: Preston Oil Co., 1706 Sunday Creek Coal Co., SE Section 35, 25 bbl., shot, Clinton 3,442 ft.

Washington County

Fearing Township: Emmett W. Haas et al, 2 Charles Kuntz, SW Section 100, 4 bbl., shot, Macksburg 500-ft. sand, 950 ft.

SOUTHWEST PENNSYLVANIA

On Chestnut Ridge, South Union Township, Fayette County, Peoples Natural Gas Co. filling back to 5,150 ft. No. 2 Piedmont Coal Co. to straighten hole. Its No. 3 has location cleared and rig building.

In Maryland New Penn Development Co., William E. Snee and others are drilling at 6,900 ft. in the test on the Humberson farm on the Accident dome in Garrett County. The shales are getting darker. On Laurel Ridge in Stewart Township, Fayette County, these operators and E. G. Mueller have reached 7,740 ft. in the test on the Gregg L. Nell farm with the shales very dark and definitely believed to be the Marcellus.

SOUTHWEST PENNSYLVANIA COMPLETIONS

Armstrong County

Cowanshannock Township: Equitable Gas Co., 3 G. W. Smeltzer, 73,000 cu. ft. from Thirty Foot and Bradford, T.D. 3,700 ft.
Kittanning Township: Equitable Gas Co., 1 James Waltenbaugh, dry, T.D. 3,519 ft.
Wayne Township: R. C. Galbreath & Co., 2 John Dormire, 60,000 cu. ft. from Sheffield, T.D. 3,000 ft.
Penn Wayne Gas, 1 Elizabeth Foster, dry, T.D. 3,375 ft.

Indiana County

Center Township: T. W. Phillips G. & O. Co., 2 R. & P. Coal Co., dry, T.D. 3,415 ft.

Westmoreland County

Lower Burrell Township: Peoples Natural Gas Co., 1 John Hulton, drilled deeper, dry, T.D. 3,534 ft.

DRILLING WELLS

Armstrong County

Kittanning Township: H. C. Judson, 1 Robert Watterson, 2,785 ft.
Mahoning Township: John Wray & Co., 1 King Shaffer, 825 ft.
Plum Creek Township: William McCollins, 2 Add Reefer, 1,250 ft.
South Bend Township: Equitable Gas Co., 1 Margaret A. Claypool, to drill deeper.
Valley Township: Local Co., 2 W. L. Piest, spudding 40 ft.
Parks Township: T. W. Phillips G. & O. Co., 1 France Klingensmith, 995 ft.

Indiana County

Armstrong Township: J. C. Rinn, 2 Perdon heirs, 2,775 ft.
South Mahoning Township: John Wray & Co., 2 James Lukehart, 575 ft.
Washington Township: Peoples N. G. Co., 1 Calvin Cribbs, 560 ft.

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T. W. Phillips G. & O. Co., 1 Lawrence Fairman, 1,160 ft.
T. W. Phillips G. & O. Co., 1 John Lizzenskie, 893 ft.

Clarion County

Monroe Township: Owens Illinois Glass, 1 J. W. Aites, 890 ft.
Clarion Township: R. M. Burnham & Co., 1 Enos Hill, 895 ft.
Piney Township: Rhea G. & O. Co., 2 C. Wassum, shut down.
Red Bank Township: John Lasher, 1 Cora M. Truitt, 865 ft.
T. W. Phillips G. & O. Co., 1 David McKinley, 2,782 ft.

Washington County

South Franklin Township: F. K. Fawcett et al, 2 J. C. and Anna Phelan, Fifth sand 2,954 ft., 10 bbl. 2,965 ft., T.D. 2,982 ft.
Chivers et al, 1 Ed Earliwine, 1,043 ft.
E. H. Tague, 14 A. D. McKennan, 1,230 ft.
Amwell Township: Carnegie, 2 McCollum, rig.
Carnegie, 1 Frazee, 1,667 ft.
Orrill et al, 1 Lantz, 410 ft.
Harry V. Sprowls et al, 1 Clarence Van Kirk, deepening from 1,653 ft. in Big Injun, now 1,784 ft.
Somerset Township: Equitable Gas Co., 1 Watkins, 2,480 ft.

Greene County

Morris Township: Romney Rutan et al, 1 Alfred Rutan, rigging up.
Monongahela Township: John Ingraham, 1 Bliss Donham, 1,520 ft.
D. E. Mayne et al, 1 L. L. Crawford, 945 ft.
Wahler-Powers, 1 Silas Provins, 165 ft.
Richhill Township: Carnegie, 8 J. K. Loughridge, 783 ft.
O. I. Dille et al, 2 Madison Hughes, 3,240 ft.
Wayne Township: I. S. White et al, 1 Norman Strosnider, Big Injun 2,063 ft., gas 2,085-95 ft., 240,000 cu. ft., drilling 2,250 ft.
Waynesburg Home Gas Co., 1 W. A. Elms, 2,600 ft.

Fayette County

Nicholson Township: Duquesne Gas Co., 1 Ivan Mallory, drilling by tools 866 ft.
German Township: J. H. Carnell, 1 Marion Kurzankuski, 1,940 ft.
Greensboro Gas Co., 1 C. L. Springer, 825 ft.

WEST VIRGINIA

WEST VIRGINIA OIL COMPLETIONS

Hancock County

Grant district: R. J. Braden Co., 57 C. E. Brenneman, 2 bbl., Berea, 860 ft.

Pleasants County

Jefferson district: A. F. Marple & Co., 18 S. White, dry will be used as input, Cow Run, 1,000 ft.
Lafayette district: G. A. Smith, 1 S. A. Morris (J. S. Uminsetter), 8 bbl. and 40,000 cu. ft. gas, Keener, 1,750 ft.

Ritchie County

Clay district: Ruth A. McBurney, 3 A. M. and Ethel Perkins, 3 bbl., Cow Run, 1,100 ft.

GAS WELLS

Boone County

Scott district: Cambridge, 6 Charles H. Price heirs, Big lime at 1,496-1,695 ft.; Big Injun, 1,695-1,728 ft.; Berea, 2,181-99 ft.; brown shale, 3,349-3,786 ft.; 425,000 cu. ft., 36 hours after shot, T.D. 3,789 ft.
Crook district: Pond Fork O. & G., 16 fee, 450,000 cu. ft., Berea 2,015 ft.
Washington district: South Penn, 59 Yawkey-Freeman, 232,000 cu. ft., Berea, 2,510 ft.

Gilmer County

Glenville district: Pittsburgh & W. Va. Gas, 7745 Lloyd Rinehart, Maxton sand, 1,234-61 ft.; 500,000 cu. ft. at 1,237-58 ft., T.D. 1,261 ft.
DeKalb district: A. E. Ellis et al, 2 Cora Lockhart, 700,000 cu. ft., Injun, 1,839 ft.

Lewis County

Court House district: Pittsburgh & W. Va. Gas, 7757 E. A. Bennett, Gordon sand 2,577-97 ft., 1,536,000 cu. ft. at 2,580-83 ft., T.D. 2,597 ft.

Ritchie County

Grant district: New York Petroleum, 9 Lafayette Moss, 148,000 cu. ft., Injun, 1,958 ft.
Clay district: Frank Finley, 1 John Poole, 220,000 cu. ft. and 1 bbl., Gordon sand 2,567 ft., drilled deeper.

Roane County

Harper district: W. B. Hughes, 5 A. J. Hinzman, dry, Salt sand 1,610 ft.

Tyler County

Meade district: R. J. Broadwater, 1 A. S. McCullough heirs, dry, Cow Run 935 ft.

Wayne County

Union district: Clifford Mills & Co., 2 Lora Allen estate, Big lime at 1,250-1,500 ft., Big Injun 1,500-90 ft., 350,000 cu. ft. from Big lime and Big Injun 8 hours after shot, T.D. 1,877 ft.

ORISKANY GAS FIELD DRILLING WELLS

Kanawha County

Poca district: United Fuel Gas, 4880 Allie Pritt, 1,815 ft.
G. L. Cabot, 4 D. Holmes Morton, 945 ft.
C. L. Cabot, 5 Putnam Co., 1,620 ft.
G. L. Cabot, 10 Putnam Co., 3,970 ft.
G. L. Cabot, 2 Poca Coal & Land Co., 1,602 ft.
G. L. Cabot, 4 J. T. Bonham, 2,110 ft., testing Big lime topped at 1,829 ft., gaged 1,244,000 cu. ft. a day.
G. L. Cabot, 3 J. L. McLean heirs, 875 ft.
United Carbon, 830 O. B. Boggess, 4,475 ft.
United Carbon, 831 Mary E. Carney, 3,440 ft.
United Carbon, 1 R. S. Milam, 290 ft.
Columbian Carbon, 1 G. W. Spencer, 1,720 ft.
Columbian Carbon, 1 D. W. Taylor, top Corniferous 4,916 ft.
Columbian Carbon, 1 D. L. Cork, 2,039 ft.
Columbian Carbon, 1 Fay E. Hughart, 2,264 ft.
Columbian Carbon, 1 Martha A. Harbert, 310 ft.
Columbian Carbon, 1 H. C. Jones, 1,120 ft.
W. Va. Gas, 041 Samuel H. Fields, top Corniferous 4,971 ft.
Poca Fork O. & G., 1 Anna M. Jones, 4,450 ft.
Everett Starcher, 1 G. J. Litton, 4,175 ft.
Glenn O. & G., 1 A. V. Olive, 840 ft.
Glen Dearth et al, 1 P. S. Berry, 1,771 ft.
Linden Drilling Co., 2 J. W. Harding, 1,758 ft.

Jackson County

This is the extension of the Oriskany gas field in Poca district, Kanawha County, and is located north of Sissonville. Extensive work is now under way in this field.

Washington district: R. E. McCabe, 1 F. M. Ray, Corniferous 4,908-5,021 ft., Oriskany 5,021-46 ft., gas 5,024-46 ft., 18,630,000 cu. ft. a day, rock pressure 1,540 lb., ½ hour, without shot, T.D. 5,046 ft.
United Fuel Gas, 4873 D. C. Milam et al, top Corniferous 4,914 ft.
United Fuel Gas, 4879 Job E. Ray, drilling 5,215 ft.
United Carbon, 6 Elizabeth Ward Perkins, drlg. 1,910 ft.
G. L. Cabot, 1 E. C. Comer, drilling 2,315 ft.
G. L. Cabot, 1 Charles L. Mangus, drilling 1,450 ft.
Columbian Carbon, 3 Helen M. Hoge, drilling 2,005 ft.
Ripley district: Columbian Carbon, 1 J. W. Weatherholt, drilling 1,850 ft.
Columbian Carbon, 1 D. E. Anderson, 350 ft.
Cherrington Corp., 1 W. T. Boggess et al, drilling 550 ft.
Joe Rubin, 1 Clarence Pfost, drilling 4,290 ft.
G. L. Cabot, 7 Putnam Co., drilling 2,950 ft.
G. L. Cabot, 9 Putnam Co., drilling 1,849 ft.

WILDCATS

In Harrison County the rotary wildcat of the Hope Natural Gas Co. on the G. S. Gribble farm in Grant district, is drilling at 1,974 ft. In Wood County the test of Glenn Roberts on the C. W. Cook farm in Tygart district, is drilling at 1,425 ft. Both are scheduled for the Oriskany sand.

NEW WORK

Boone County

Scott district: Owens, Libby-Owens, 32 Cassingham Coal Land, elevation 892.8 ft.

Cabell County

Barboursville district: Barboursville Fuel Gas, 1 Harry Hatfield, elevation 587 ft.

Calhoun County

Center district: Hope Natural Gas, 8518 Pruda E. Smith, elevation 804 ft.
Sherman district: W. H. Bickle, 4 Luerna Barr, elevation 1,020 ft.

Jackson County

Ripley district: West Virginia Gas Corp., 1 F. T. Huffman, elevation 906.6 ft.

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The Oil and Gas Journal

BOX 1260-J **TULSA, OKLAHOMA**

United Fuel Gas, 4890 J. F. Miller.

Kanawha County

Poca district: South Penn Natural Gas, 1 G. W. Burdette, elevation 791.8 ft.
Columbian Carbon Co., 1 L. D. Reynolds, elevation 879.4 ft.

Pleasants County

Jefferson district: A. F. Marple & Co., 18 Lavine White, elevation 1,100 ft.

Ritchie County

Murphy district: Renoa Oil Co., 5 John Coyle heirs, elevation 735 ft.
Clay district: C. I. Collins et al, 1 J. M. McDougal, elevation 1,063.7 ft.

Roane County

Harper district: Bennett Oil & Gas, 1 J. E. Jones et al, elevation 937.59 ft.

Wayne County

Lincoln district: Owens, Libby-Owens, 26 Wilson Coal Land, elevation 732.9 ft.
Stonewall district: Owens, Libby-Owens, 22 Hoard-Baldwin, elevation 1,009.4 ft.

Southwest Texas Fields

(Continued from Page 91)

covery well North Rincon field, Klemper Survey 513. Spudded.
Borsodi, 1 Vela, mile south Boyle field discovery well. Drill-stem test discovery well sand at 3,500 ft. showed salt water. Drlg. sh. 3,627 ft.
Fidelity, 1-B Carruth, 687 ft. south offset discovery well Boyle field. Spudded.
Rutherford, 2 Carruth, 1,750 ft. west Boyle field discovery well. Drlg. 2,014 ft.

Webb County

Tide Water, 8 Bruni, Wilcox sand test, east edge field. Cmtd. protection casing 8,834 ft. preparatory to coring into sand at 8,950 ft. from which No. 7 blew out.

CORPUS CHRISTI DISTRICT

Bee County

Melung, 1 Claude Heard, Section 6, Heard subd., Henry R. Eyels Sur., 7½ miles east Beeville. Rig.
Dirks, 1 Wolf, mile east Plummer field. Drlg. 3,528 ft.

Calhoun County

Coronado, 2 Welder, west disc. well Duck Bay field. Drlg. sdy. sh. 5,831 ft.

De Witt County

Atlantic, 1 Conwell, Lockhart Sur., Thomaston field ext. Drlg. 4,233 ft., 10¾-in. csg. cmtd. 1,829 ft.

Live Oak County

Continental, 1 Cartwright, J. Sandman Sur., Lucas field ext. Sh. 3,670 ft., cmt. 15½-in. csg. 3,493 ft.
Jones, 1-B George West est., L. A. Fant Sur. 20. Drlg. sh. 2,862 ft.

Goliad County

Culton, 1 Cole, Goliad T. T. Sur. Drlg. 5,622 ft.

Jim Wells County

Hewitt & Daugherty, 1 Carver, I.&G.N. Sur. 378. Sh. 5,272 ft.; P.B. 2,683 ft.; perf. casing 2,662-70 ft.; 5-minute D.S. test showed 750 lb. pressure; tried to blow out.
Smith, 1 Theil, J. M. Reynolds Sur., ¼ mile SW Orange Grove townsite. Sh. 4,365 ft.; 10¾-in. csg. 525 ft.

Refugio County

Norsworthy, 2 Fagan, Nicholas Fagan Sur., south of No. 1 Fagan extension well. Jetted salt water 5,315½ ft.; squeezed perforations; to retest.

San Patricio County

Norsworthy, 1 Kamey, Farm Tract 17, Blk. E, Gregory Farm Tracts, 3 miles NW Gregory townsite. Reached contract depth 6,500 ft.; running electrical-log sur.

Victoria County

Titanic, 1 Edwards, Desiderio Nira Sur., 1,900 ft. S line, 13,200 ft. from NE line of survey. Rig.

Urge Establishment of Tank Farm For Turner Valley Crude

Announcement of Royalite Oil Co. that it would be unable to supply the July crude requirements of western Canadian refineries, estimated at 31,133 bbl. a day, will likely be followed by measures to prevent a repetition of this situation. G. R. Cottrelle, recently appointed federal oil controller, will visit Calgary in the near future to study the situation. The Alberta Petroleum Association is urging the establishment of a huge oil-storage tank farm to permit production of Turner Valley crude wells at a steady allowable all the year round and prevent heavy withdrawals from wells during the summer and fall peak-demand seasons. Early in July, the Alberta Conservation Board readjusted the quotas of new wells to enable them to make up the deficiency in the 26,000-bbl. daily aggregate allowable due to failure of old producers to deliver their full quota. It is expected that five wells now completing official tests will be given maximum allowables in order to bring the aggregate output of the field as near as possible to refinery requirements.

The Royalite Oil Co. announcement pointed out that while refinery purchasers in western Canada had set their requirements at 31,133 bbl. daily, the maximum allowable was only 26,000 bbl. It was stated that refineries in Saskatchewan would be supplied on a prorata basis if any crude was left after the requirements of the Imperial, British-American, Gas & Oil Products, and Anglo-Canadian Oil Co. refineries, which have producing wells under contract, are met.

In addition to encouraging the provisions of adequate reserve storage, the Alberta government is planning to encourage more rapid development work in Turner Valley and other fields. It is estimated that 35 new completions annually are required to maintain Turner Valley production.

Demand for Alberta Crude Oil Exceeds Official Allowable

CALGARY, Alta.—The announcement by the Royalite Oil Co. that the actual demand from prairie refineries for Alberta crude exceeds the official allowable abruptly reverses the marketing situation which has existed for over a year.

The present quota, fixed on July 1 for a period of 1 month, is 26,000 bbl. for a total of 111 wells in the Turner Valley crude area. Refinery requirements for the west in July amounted to 31,133 bbl. daily, indicating a shortage of 5,133 bbl. daily, which, presumably, must be made up by imports.

Estimates last month, based on flow tests of initial production with 1-in. choke, placed the nominal potential of Turner Valley crude wells at around 100,000 bbl. daily. At the same time, officials estimated that a production of 35,000 bbl. and possibly 40,000 bbl. might safely be taken.

Aggregate allowables in the past year have fluctuated from a midwinter low of 10,000 bbl. to the present high of 26,000 bbl. fixed on July 1 to meet increasing summer demands. During the low period, substantial storage reserves were built up; but the heavier demand has pretty well depleted these. Crude capacity of the three pipe lines of the Valley Pipe Line Co. from Turner Valley to Calgary is given as 30,000 bbl. a day, but some crude is refined in the field.

After the increased allowable of 26,000 bbl. was fixed on July 1, it was found that a number of wells were not producing their allowable. Accordingly, allowables for these wells were reduced, and the difference allotted to other wells better able to maintain production.

Maintenance of a steady, year-round allowable with storage of the winter surplus has been suggested as a means of preventing recurrence of the present situation; but storage facilities, though largely increased in the past year, are still inadequate to handle so large a quantity of crude. Small refineries lacking storage space find it cheaper to refine the crude as it comes in and sell the product immediately, thus saving storage charges.

A factor controlling production is the gas-oil ratio. Under a ruling of the Alberta Conservation Board, a well with a ratio of 31,000 cu. ft. of gas or more to a barrel of oil is classified as a gas well, and subject to severe restrictions on production. If a well produces crude too rapidly, the gas-oil ratio increases. Operators generally guard against this contingency, which would shorten the lives of their crude producers.

With the completion in the last 2 months of a string of 10 new producers, Turner Valley drilling has dropped to probably the lowest point since 1937. It is estimated that from 35 to 40 new wells yearly are needed to maintain output; while to increase production additional drilling is necessary. In the original South Turner Valley crude area, some sections have been pretty well drilled out, and there are only three tests actually drilling in Township 18. Drilling this year has advanced farther and farther north in the West Central area, and has extended the North Turner Valley field. Between the two areas there is an untested stretch about 5 miles long which presents possibilities. The Alberta Conservation Board has adopted a policy of one well to 40 acres. At the present time there are 18 wells drilling and 5 testing production.

Turner Valley crude production is supplemented by a naphtha output of about 1,000 bbl. a day from the older portion of the same field. There is also a small crude production from minor pools in southern and eastern Alberta. So far, intermittent testing of similar foothills areas has failed to develop a second Turner Valley field.

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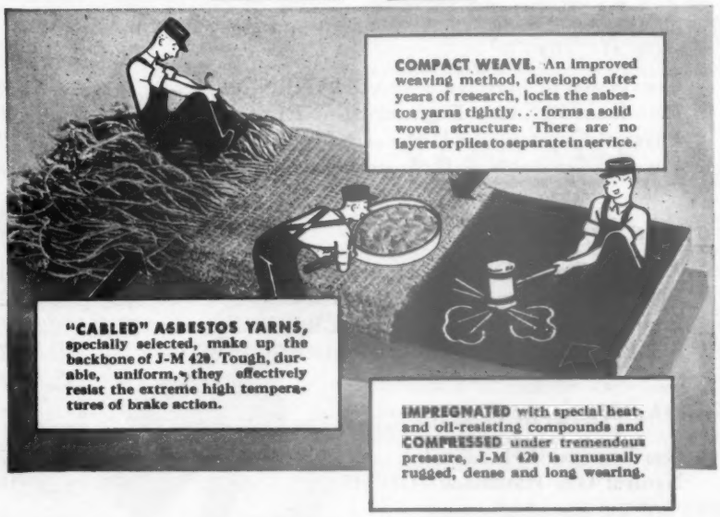
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By STAFF CORRESPONDENT

EVANSVILLE, Ind., Aug. 5.—New work in Indiana exceeded completions by 1, 16 new operations being reported against 15 completions with 10 of the latter being oil wells having a total initial of 1,327 bbl. Gibson County led in completions with seven new oil wells being recorded for an initial production of 1,282 bbl.; there was also a location abandoned. Six new tests were recorded in the county.

Posey County's lone completion was an oil well making 15 bbl. while Spencer had three completions but only one of them was a success, making 30 bbl. St. Joseph, Huntington, Whitley, Madison, and Sullivan counties each reported a dry hole.

Activity seemed to be picking up in Porter County with three new tests starting work during the week. Spencer County got two new drilling wells, Posey County got three, and Whitley County got one.

In Sullivan County a test well showed oil but encountered water and was plugging back. In Daviess County a wildcat well had a hole full of oil after a shot and the crews were cleaning out and a second well ½ mile away was nearing the pay zone; there was also a prospective pool opener in Gibson County.

Hottest spots are in Gibson County where three different formations are attracting operators and at the close of the week there were seven tests in or near the completion stage. Posey County had nine wells nearing completion with seven of them located in or close to 34-3s-14w, the South Griffin field.

NEW OPERATIONS

Spencer County

H. M. Hunt et al, 1 Chapline.....SE SE NE 5-8s-6w
Ran 375 ft. of 6-in. pipe.
L. L. Benoist, 1 Winchell.....NW SW SE 7-7s-7w
Rigging up machine.

Whitley County

Michiana O. & G., 1 Bailey..... NE SW 3-30n-8e
Old T.D. 575 ft., Trenton 1,331 ft., show oil 1,332 ft.

Porter County

John M. Kavana, 1 Chestertown State Bank ..... NW NW NE 20-37n-5w
Ran 150 ft. of 8-in. casing.
Norris & Brown et al, 1 Cole....SW NW SE 19-36n-5w
Devonian 297 ft., show oil 309-12 ft., plugged back 312 ft., waiting on cement.
Roung & Lowe, 1 Nielson.....NW SW NW 28-36n-5w
Shut down at 165 ft.

Posey County

Sun, 2 Dietz.....NW SW SE 1-7s-12w
Old T.D. 1,820 ft., will drill deeper.
Harry Sandler, 4 Keck.....NW SW NW 34-3s-14w
Set 133 ft. of 10-in. casing.
Ray Ryan, 5 Keck.....SW NW NW 34-3s-14w
Set 128 ft. of 10-in.

Gibson County

Lewis Prod., 2 Dunn, 738 ft. SL and 1,497 ft. WL (irregular section) 18-3s-13w
Rigging up rotary.
Papoose Oil, 9 Cooper A.....NW NW SW 13-3s-14w
Rig up.
Continental, 7 Keck.....SW SE SE 27-3s-14w
Rig up.
Newton P. L., 1 Prudential Life Ins. Co. ..... NE NE NE 35-1s-10w
Location.
Oakland City College, 1 fee .....NW NE 20-1s-9w
Rigging up machine.

COMPLETIONS

Posey County

O. F. Kelly et al, 2 Hahn ..... NE NW SW 1-7s-12w
Pumped 15 bbl., 1,846-48 ft., T.D. 1,896 ft.

Gibson County

Papoose Oil, 7 Cooper A.....NE SW SW 13-3s-14w
Flowed and swabbed 432 bbl., shot 50 qt. 2,479-2,503 ft., T.D. 2,509 ft.
Hall Edwards, 6 Maier.....SW SW NW 13-3s-14w
Flowed 320 bbl., acid 1,000 gal., Ste. Genevieve 2,778 ft., T.D. 2,856 ft.
Joe Bander et al, 35 Cooper....SE NE NE 24-3s-14w
Swabbed 124 bbl., shot 40 qt., 2,520-35 ft.
Joe Bander et al, 7 Cooper .....SW NW NE 13-3s-14w
Pumped 150 bbl., shot 30 qt., 2,081-97 ft.
W. F. Lacey et al, 6 Cooper....SW SW SW 18-3s-13w
Pumped 123 bbl., shot 20 qt., 2,065-85 ft.
W. F. Lacey et al 4 Cooper....SW SW SW 18-3s-13w
Pumped 63 bbl., plugged back 2,525 to 2,097 ft. and drilled out to 2,520 ft.
W. F. Lacy et al, 1 Dunn ..... NW SW SW 18-3s-13w
Pumped 70 bbl., plugged back 2,520 ft. to 2,131 ft. and drilled out to 2,520 ft.

St. Joseph County

Robert Allen, 1 Sones.....NE SW SE 20-38n-4e
Dry, show oil 530-36 ft. and 538-47 ft., water 574 ft.

Huntington County

Ray Ash, 1 Shaw ..... SE SE SE 12-26n-9e
Dry, T.D. 1,007 ft.

Madison County

Frontier, 1 Am. United L. Ins. Co. SW NW SE 8-21n-8e
Dry, Trenton 921 ft., show oil 921-32 ft., water 932-73 ft., T.D. 1,383 ft.

Sullivan County

E. L. Shandy, 3 Osborn heirs..NW SE SE 12-8n-10w
Dry, T.D. 835 ft.

Spencer County

Ben Davis et al, 1 Simms.....SW SW SE 22-6s-7w
Dry, 875 ft.
Charles E. Dice, 1 Grass.....NE NE NE 11-6s-4w
Dry, T.D. 692 ft.
O. L. Sturbois, 4 Boyd.....NW NE NE 31-7s-6w
Pumped 30 bbl., wall packer 924-31 ft.

WILDCAT OPERATIONS

Boone County

N. N. Smith, 1 Marshall.....NW NW NE 34-19n-2e
St. Peter 1,568-1,602 ft., show dead oil 1,584 ft., shut down 1,724 ft.

Sullivan County

Walter K. Jones, 1 Huff.....NW SW 35-8n-10w
Show oil 739-46 ft., water 829-31 ft., plugged back 650 ft.

Daviess County

Newton P. L. Co., 1 Conelly.....SE SE NE 33-2n-6w
T.D. 2,370 ft., plugged back 2,220 ft., bad cement job, to recement.
C. P. & H. Drlg., 1 Hart.....SW SW NW 4-2n-5w
Sand 576-84 ft., shot 15 qt., hole full of oil, cleaning out. (A second well less than ½ mile southeast was drilling at 455 ft.)

Gibson County

Newton P. L. Co., 1 M. E. Carrithers..... SW NW SW 25-1s-10w
Glen Dean 1,294 ft., drilling 1,320 ft.
K. T. & F. Oil Dev., 1 Shoultz..NE NE SE 18-1s-9w
Old T.D. 1,262 ft., shot 5 qt., 1,312-17 ft., cleaning out with show oil.
L. B. Jackson et al, 1 Sturgeon....SE NW SE 10-2s-9w
Glen Dean 1,206 ft., Golconda 1,290 ft., drilling 1,300 ft.
L. B. Jackson, 1 Keton.....NW NE NE 15-2s-9w
Cypress 1,387 ft., small showing of oil 1,387-94 ft., drilling 1,628 ft.

Posey County

Max Cohen, 1 Williams .....SW NW NW 4-4s-13w
Menard 1,870 ft., Glen Dean 2,223 ft., drilling 2,275 ft., with no show.

OHIO FIELDS

NEWARK, Ohio, Aug. 5.—In the Ohio fields covered in this report, 22 completions were reported, 6 gas wells, 9 oil wells, and 7 dry holes. Jackson County test is dry in the Clinton and Medina but has some gas in the Ohio shales.

Magnolia Petroleum Co. in Berlin Township, Mahoning County, is running 7-in. casing at 4,220 ft. The Newburgh is expected to be encountered around 4,320 ft. In Palmer Township, Washington County, Columbia Carbon Co. et al plugged their Oriskany test back to 1,757 ft., and are preparing to perforate 8-in. casing in order to test a gas showing in the Berea.

Athens County

Ames Township: D. T. Orndoff, 2 J. W. Howard. Fraction 34, 70,000 cu. ft., second Berea at 1,414-27 ft.
Canaan Township: Gibson, 1 W. H. Joyce. Section 6, 60,000 cu. ft., second Berea at 1,657-67 ft.

Allen County

Bath Township: Hepsher & Wagner, 10 Wm. Lenney, Section 12, pumped 1 bbl., Trenton at 1,314-64 ft.

Guernsey County

Adams Township: Ronshausen et al, 1 F. F. Huff, Section 21, 1 bbl. of oil and 50,000 cu. ft. of gas, Berea 1,093-1,115 ft.
Valley Township: Jewell Gas, 1 Daniel Miller, Section 11, 130,000 cu. ft., Berea at 1,186 ft.

Hocking County

Ward Township: Preston, 177 Sunday Creek Coal Co., Section 12, 30 bbl., shot, Clinton 3,388-3,436 ft.
Preston, 180 Sunday Creek Coal Co., Section 11. Dry. Show of oil and gas in Clinton, abandoned at 3,606 ft.

Holmes County

Monroe Township: Ohio Fuel Gas, 1 W. H. Perdue, Section 20, 1,480,000 cu. ft., Clinton, T.D. 3,270 ft.

Licking County

Fallsbury Township: Kundtz-Hulse, Inc., 3 O. E. Booth, Section 18. Dry. Show of oil in the Clinton, T.D. 2,925 ft.
Perry Township: Gail Earley et al, 6 Chas. Lothes, Section 7, 5 bbl., shot, Berea at 736-48 ft.

Jackson County

Milton Township, 3 miles southeast of Wellston: F. O. Hurt et al, 1 McKell estate, SE Section 20, dry in Clinton and Medina, T.D. 2,940 ft., P.B. to 1,825 ft., 140,000 cu. ft., shot, Ohio shales 1,585-1,773 ft.

Lorain County

Grafton Township: Forest, 8 C. W. Wise, Lot 53, 4 bbl., Berea 139-53 ft.

Medina County

Chatham Township: Preston, 1 and 2 E. L. Packard, Lot 2, Tract 18, both dry, depths 503 and 500 ft.
Spencer Township: Kemrow, 1 H. J. Still, Section 2. Dry. Clinton 2,583-86 ft.

Meigs County

Sutton Township: Simpson et al, 1 E. S. Beegle, Section 10. Dry. T.D. 510 ft.

Monroe County

Wayne Township: F. S. Paulus et al, 1 J. Strauch, Section 27, 8 bbl. natural 1,607-15 ft.
Washington Township: Craig Brothers, 1 J. E. Griffon, Section 11, 5 bbl., shot, Cow Run at 814-26 ft.

Noble County

Wayne Township: R. M. Burns et al, 1 Jas. W. Rich, Section 9. Dry. Berea 1,520-33 ft.

Perry County

Clayton Township: Preston, 4 A. C. Randolph, Section 17, 11 bbl., Clinton 3,197-3,231 ft.

Tuscarawas County

Dover Township: Brendel Producing Co., 4 Columbia Fire Clay, Lot 10, 500,000 cu. ft., Clinton 4,495-4,524 ft.

Washington County

Barlow Township: Bren et al, 1 A. J. Barnett, Section 7. Dry. T.D. 2,108 ft.
Liberty Township: Depuy Brothers, 5 Irvin Hendershot, Section 21, pumped 1 bbl., Keener, T.D. 1,385 ft.

Wyandot County

Tymochtee Township: T. R. Phillips, 1 B. Bowman, Section 21, 1 bbl., Trenton 1,379-1,421 ft.

EASTERN KENTUCKY

ASHLAND, Ky., Aug. 5.—Two gas wells were reported completed in eastern Kentucky this week and one dry hole is included in the tabulation of drilling activities.

Kentucky-West Virginia Gas Co. has completed No. 5268 on the John F. Burchett farm on Cow Creek in Floyd County at a total depth of 2,691 ft. The well is making 33,000 cu. ft. of gas in Big lime in 24 hours with rock pressure of 350 lb. and is producing 84,600 cu. ft. of gas in shale with rock pressure of 356 lb.

Kentucky-West Virginia Gas Co. reports the completion of No. 595 on the Floyd Hall tract in Floyd County at a total depth of 2,850 ft. in shale with a production of 174,000 cu. ft. of gas, 72 hours, with rock pressure of 120 lb.

Fitch & McGowan hit a dry hole in Big lime at a total depth of 810 ft. in No. 2 on the Leonard Holbrook land in Morgan County.

Floyd County: Kentucky-West Virginia Gas Co. is down 2,712 ft. in Berea in No. 593 Mary and J. B. Adams.

Mason County: The W. S. & T. Co. has fished pipe and is about to shoot showing of oil at St. Peter formation at 1,600 ft.

WESTERN KENTUCKY

OWENSBORO, Ky., Aug. 5.—Western Kentucky had a quiet though generally successful week as six oil wells, one gas well and one dry hole were completed.

The record of completions and report from important drilling wells is as follows:

WESTERN KENTUCKY OPERATIONS

Butler County

Huntsville district: Cumberland, 1 Geo. Sweezy. 10 bbl., Jones sand, T.D. 433 ft.

Daviess County

Utica district: United, 1 C. R. Cox. 50 bbl., 5,000 gal., acid, McClosky, T.D. 1,727 ft.
Foursome, 1 Roy Hansford. 125 bbl. oil, 40 bbl. water, drilled deper from 1,480 ft. through McClosky to 1,714 ft.
Handyville district: Staves, 7 L. I. Iglehart. Moving in.
A. Teller, Trustee, 4 E. F. Leobold, East tract. Moving in.
Pleasant Ridge district: F. F. Gibson et al, 4 Kate Shively. 10 bbl., Barlow sand, T.D. 1,048 ft.
Red Hill district: Simon Lebow, 7 Rosa B. Tyler. 10 bbl., Jett sand, T.D. 1,000 ft.

Hancock County

Saunders School district: W. J. Flesher, 5 W. F. Burk, W. 30 acres. Drilling at 150 ft.
Cloverport district: W. J. Flesher, 5 Wm. Snyder. 194,000 cu. ft. gas, Bethel sand, T.D. 405 ft.

Henderson County

Niagara district: Niagara, 9 J. E. Knight. Drilling at 225 ft.

Ohio County

Oaks district: Snowden & McSweeney, 6 J. W. Cheek. 5 bbl., Jett sand, T.D. 354 ft.
Friendship Church district: L. M. Steele, 3 G. M. Huffeet. Drilling at 400 ft.
Pattyville School district: Wm. Parks & Moore, 1 H. T. Stone. Dry hole through Jett sand, T.D. 347 ft.
Buford district: Rex-Pyramid Oil Co., 1 S. B. Wiggington, Moving in.

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1940 High	1940 Low	Week ended Aug. 3 High	Week ended Aug. 3 Low	Week ended Aug. 3 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1939	Com. sh. earn. 1939	Com. sh. earn. 1938	1939 High	1939 Low	1938 High	1938 Low
58½	38½	41⅞	41⅞	41⅞	Amerada Corp.	788,675	N.P.	50cQ	7-31-40	$2.00	$1.56	$2.07	74½	50	78	55
27⅛	18¼	21¾	20¾	21¾	Atlantic Refining	2,663,999	$25	25cQ	6-15-40	1.00	1.66	1.40	24¾	18⅛	27⅝	17⅜
16⅝	8½	10½	9⅝	10⅜	Barber Asphalt Co.	390,223	$10	25c	5-21-40	.25	1.39	—.85	21	10¼	23¾	12⅛
13⅜	7⅛	8⅜	7⅞	8¼	Barnsdall Oil Co.	2,558,779	$5	15c	9-9-40	.90	.76	1.26	19½	11⅛	21⅜	10⅛
8⅛	5½	6½	6¼	6¼	Consolidated Oil Corp.	13,751,726	N.P.	20cQ	8-15-40	.80	.55	.55	9⅞	6½	10⅜	7
25	16⅛	19⅛	17⅞	18¼	Continental Oil of Delaware	4,682,572	$5	25cQ	9-30-40	1.00	1.35	1.10	31½	19⅞	35⅜	21¼
6⅞	3⅜	4	3⅞	3⅞	Houston Oil	1,098,618	$25	..	10-17-30	....	.43	.83	9⅜	4½	9¾	5
14⅜	9	9½	9⅜	9½	Lion Oil Refining	435,815	N.P.	25cQ	7-15-40	1.00	1.50	2.09	18⅛	10	25⅛	15⅝
17⅜	11½	13	12½	12½	Mid-Continent Petroleum	1,857,912	$10	40c	6-1-40	.60	1.42	.56	18	11⅛	22⅝	12¼
11	7⅛	8	8	8	Mission Corporation	1,378,645	$10	40c	12-15-39	.65	.87	1.04	14⅞	8⅜	17⅜	10⅝
9¾	4⅝	6⅛	5⅞	6	National Supply	1,155,517	$10	....	12-22-37	....	—.87	—.79	15½	5⅝	23	12½
8¾	5⅜	6¼	6	6	Ohio Oil Co.	6,563,377	N.P.	20c	6-15-40	....	—.10	.25	10½	6	14⅞	8⅞
8¼	5⅝	6	6	6	Pacific Western Oil	1,000,000	N.P.	40c	12-19-39	.40	.81	1.22	11⅞	7	15⅞	10¼
10½	6¾	..	..	..	Pan American Pet. Trans.	4,702,945	$5	....	12-31-37	....	1.10	.08	8¾	5	9¼	6¼
41¾	27⅛	33⅞	32¼	33½	Phillips Petroleum	4,449,052	N.P.	50cQ	8-31-40	2.00	2.21	2.03	46½	31¼	44⅜	27¼
22¾	15	16⅞	16¾	16¾	Plymouth Oil Co.	1,038,633	$5	35cQ	6-28-40	$1.40	2.38	2.59	24	17⅛	25⅜	15
11½	7	7⅞	7½	7⅝	Pure Oil Co.	3,982,031	N.P.	25c	12-20-39	.25	1.11	.38	11¾	6⅛	13½	8¼
8⅜	5⅞	8	8	8	Richfield Oil Corp.	4,010,000	N.P.	50c	12-18-39	.50	.65	.51	10¼	6⅝	9⅞	5
20	11	13½	13½	13½	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	9-14-40	1.00	1.40	1.52	24⅝	15½	27½	15⅛
13⅛	7⅝	8⅞	8⅝	8¾	Shell Union Oil	13,070,625	N.P.	25c	7-16-40	.50	.77	.72	17¼	9⅞	18⅜	10
23¼	12¼	15¾	15	15¾	Skelly Oil	995,349	$15	25c	8-28-40	.75	1.99	2.27	29½	15½	34¾	18½
12½	7⅛	8¾	8⅜	8⅝	Socony-Vacuum	31,206,071	$15	25cSA	3-15-40	.50	1.10	1.29	15⅛	10¼	16⅜	10⅜
26⅛	17⅜	18¾	18	18½	Standard Oil of California	13,003,953	N.P.	25cQ	9-16-40	1.10	1.38	2.22	33⅝	24⅛	34⅞	25⅛
29	20¾	24⅞	24¼	24¼	Standard Oil (Indiana)	15,272,020	$25	25c	6-15-40	1.25	2.23	1.82	30	22¾	35½	24¾
46½	29⅞	34	32⅞	33¼	Standard Oil of New Jersey	27,280,998	$25	1.00†	6-15-40	1.25	3.26	2.86	53½	38	58⅜	39¾
65⅞	47	49	48½	48½	Sun Oil	2,434,863	N.P.	25c*	6-15-40	1.00	2.74	1.07	66	45¾	65½	45
2½	1¼	1⅜	1¼	1¼	Superior Oil Corp.	1,388,979	$1	10c	12-28-38	....	.04	.24	3⅝	1⅜	4¼	1¾
47⅝	33	39¼	36¼	36⅞	Texas Corp.	10,876,139	$25	50cQ	7-1-40	2.00	3.02	2.13	50¾	32½	49⅝	32⅝
4¼	2½	2⅞	2⅞	2⅞	Texas Gulf Producing Co.	888,146	N.P.	10c	6-15-40	.20	.69	.86	5¾	3¼	5⅞	2⅝
8⅝	5½	6¼	6	6⅛	Texas Pacific Coal & Oil	888,236	$10	10c	9-3-40	.40	1.00	1.16	11⅝	7	12½	7
12	8¾	9⅝	8⅞	9⅜	Tide Water Associated	6,371,827	$10	15c	9-3-40	.80	1.05	1.28	14¼	9½	15⅜	10⅛
17½	12	12⅞	12½	12⅝	Union Oil Co. of California	4,666,270	$25	25c	8-10-40	1.05	1.25	1.47	19¾	15⅛	22½	17⅛
29⅞	22¾	26½	26¼	26½	Union Tank Car Co.	1,177,381	N.P.	45c	6-1-40	1.30	2.07	1.16	24¼	20⅛	23½	20
3⅝	1⅞	1⅞	1⅞	1⅞	Wilcox Oil & Gas	470,768	$5	10c	2-15-40	..	.77	.52	4¼	2⅜	3½	1⅝

*Also 5 per cent in stock. †Includes extras. ‡Also 2 per cent in stock. §Also 4 per cent in stock. ‖Also 2½ per cent in stock. ¶Also 1½ per cent in stock. —Deficit.

New York Curb Exchange

1940 High	1940 Low	Week ended Aug. 3 High	Week ended Aug. 3 Low	Week ended Aug. 3 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1939	Com. sh. earn. 1939	Com. sh. earn. 1938	1939 High	1939 Low	1938 High	1938 Low
10¾	5	5½	5½	5½	American Republics Corp.	1,308,049	$10	10c	7-11-38	....	$0.14	—.22	11⅜	5½	11⅜	5
3¼	1⅜	1⅝	1⅝	1⅝	Bridgeport Machine Co.	263,700	N.P.	$1.25	12-30-37	...	—.95	—.14	7¼	2½	10¼	4⅞
43	28	37½	37½	37½	Buckeye Pipe Line Co.	200,000	$50	$1	9-14-40	$2.50	3.13	2.36	34⅜	26½	39	22⅛
117	95	98	96½	98	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	6-24-40	6.00	7.87	5.32	130	108⅝	128	97
6¾	4	6	5⅝	5⅝	Cities Service (new)	3,703,978	$10	....	6-1-32	....	.68	.23	9¼	4¼	11	5⅛
2⅛	1⅛	1¼	1⅛	1⅛	Cosden Petroleum	465,332	$1	....	.....	....	....	.....	2¼	½	2⅜	⅞
24¼	13	13½	13	13¼	Creole Petroleum	6,974,356	$5	50cSA†	6-15-40	1.00	1.38	1.64	28	16¾	27½	17⅛
4⅜	2⅞	3½	3½	3½	Darby Petroleum	351,390	$5	25cSA	1-15-39	.25	.03	.69	7⅛	3⅝	10¼	5⅛
2	1¼	1⅜	1⅜	1⅜	Derby Oil & Refining	263,162	N.P.	....	.....	....	—.37	—.91	2⅝	1½	3½	1½
31	23½	..	..	..	Eureka Pipe Line	50,000	$50	50c	8-1-40	2.00	.63	—.37	23	15⅛	31	16
39⅞	25⅛	30	29⅜	29⅞	Gulf Oil Corp.	9,076,202	$25	25cQ	7-1-40	2.00	1.69	1.43	45⅛	29¼	46⅞	33
68	47⅛	55	54	54⅞	Humble Oil & Refining	8,987,840	N.P.	62½c	7-1-40	2.00	3.33	3.98	71	52½	72⅝	56
12⅜	5½	6¾	6⅜	6⅝	Imperial Oil of Canada	26,965,078	N.P.	37½c†	6-1-40	1.00	.71	.96	17	11⅜	19½	14⅛
7¾	3⅝	..	..	..	Indiana Pipe Line	300,000	$7.50	10c	5-15-40	.50	.33	.47	7¼	5½	9⅜	6
19¾	8¼	10¼	9¼	10	International Petroleum	14,324,088	N.P.	75c	6-1-40	1.75	1.19	1.98	27½	17	31¼	21
2¾	1⅝	..	..	..	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	...	.06	.14	3¾	2⅛	5	2⅛
10¾	7⅝	9¼	8⅞	9¼	Lone Star Gas	5,518,347	N.P.	20c	7-22-40	.70	.98	.88	10½	7⅛	10⅜	6⅝
6¼	3¾	4¾	4½	4½	Louisiana Land & Exp.	2,966,762	$1	10c	6-15-40	.35	.22	.45	7¾	4	9⅜	6½
17	14½	..	..	..	Margay Oil Corp.	149,943	N.P.	25cQ	7-10-40	1.00	1.52	2.28	17	14½	24	16
8½	6½	7	6¾	6¾	Midwest Oil Co.	998,474	$10	45c	6-15-40	.90	.99	.93	8¾	6⅝	9¾	6⅝
6¼	4⅞	5½	5¼	5¼	Mountain Producers	1,593,584	$10	30cSA	6-15-40	.60	.70	.62	6	4⅞	5⅝	4½
13⅛	10	10⅞	10	10½	National Fuel Gas	3,810,183	N.P.	25cQ	7-15-40	1.00	.95	.84	14	11¼	14⅝	11⅛
12½	8¾	..	..	..	National Transit	509,000	$12.50	50c	6-15-40	.85	.91	.88	9½	7¼	9¼	6½
1¼	⅞	..	..	..	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.02	.02	1⅜	1	2⅝	1⅛
7¾	5⅝	5⅞	5⅞	5⅞	New York Transit	100,000	$5	25c	4-15-40	.40	.88	.16	6	4	4½	3½
9⅞	6	..	..	..	Northern Pipe Line	120,000	$10	40c	6-1-40	.30	.31	.24	7	4½	6	4
5½	2½	3⅛	3⅛	3⅛	Pantepec Oil	2,856,872	$1	....	.....	....	....	....	7⅝	4	7¾	3⅛
3¼	1½	..	..	..	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	.70	.17	5	1¼	4½	1⅝
2½	1½	1½	1½	1½	Ryan Consolidated	298,931	N.P.	....	.....	. ..	.16	.29	3	1⅞	4	2⅛
11¾	4⅞	7	6½	6½	Southern Pipe Line	100,000	$10	25c	9-3-40	.30	.25	—.27	4⅞	3½	5⅜	3¼
44	28	33¼	33	33	South Penn Oil	1,000,000	$25	37½c	6-28-40	3.00	2.84	1.44	40½	26¾	39	28¾
35	22	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	50c	7-1-40	2.00	2.06	—.41	23	18	22¼	16½
20⅞	16½	18¼	18	18¼	Standard Oil of Kentucky	2,604,790	$10	25c	6-15-40	1.30	1.53	1.45	20⅛	17¼	18⅜	15
41⅜	26¼	34½	34	34	Standard Oil of Ohio	753,740	$25	25c	6-15-40	1.50	6.64	1.81	32⅜	17	22⅜	16¼
2	1⅜	1½	1½	1½	Sunray Oil	1,975,876	$1	5c	5-1-40	.10	.25	.23	2⅜	1⅜	3¼	2
2¾	2	2½	2½	2½	Texon Oil & Land	936,024	$2	10c	6-28-40	.10	.49	.56	4	2⅝	5¼	3½
3⅜	2	2⅛	2⅛	2⅛	Transwestern Oil Co.	750,000	$10	....	.....	....	—1.42	—.12	6	2½	7⅝	4¼
2⅛	ⅱ	1⅜	1¼	1⅜	United Gas Corp.	7,818,959	$1	....	.....	....	—.55	—.51	3⅜	1½	5¼	2⅝

†Includes extras. —Deficit.

Slight Production Decrease With Tests Nearing Pay

By VICTOR LAURISTON

CHATHAM, Ont., Aug. 3.—Crude and naphtha output from all Alberta fields in June totaled 637,973 bbl. compared with 657,918 bbl. in May. For the 6 months of 1940 the total was 3,580,674 bbl., an increase of approximately 300,000 bbl. over the first half of 1939.

In June, Turner Valley limestone crude production was 610,730 bbl. compared with 626,659 bbl. in May. Output of limestone gas wells declined from 6,927 bbl. in May to 6,009 bbl. in June, and gasoline-absorption plants were down from 21,331 bbl. to 18,729 bbl. Turner Valley shallow crude dropped from 661 bbl. to 515 bbl., and Red Coulee light was unchanged at 980 bbl. Wainwright heavy crude dropped from 851 bbl. to 844 bbl. Output of 166 bbl. was reported from the Moose Doome in June, but production from the Dina, Lloydminster, Del Bonita, and Vermilion fields was not reported, though the Vermilion field has been shipping around 70 bbl. daily.

Among Turner Valley crude producers, Arrow Royalties, 1, recently completed in the West Central field, had the largest output, 23,095 bbl. for the month. Home Oil, 3, North Turner Valley, made 13,376 bbl. and No. 2 delivered 12,831 bbl. Royalite Oil, 48, a recent completion, delivered 12,578 bbl. Among new wells, Anglo-Phillips, 1, North Turner Valley, delivered 1,932 bbl. while completing and testing. Foothills Oil & Gas, 6, North Turner Valley, delivered 3,837 bbl., and Royal Canadian, 4, a new completion, gave 7,526 bbl. in its first month. Royalite, 50 produced 9,171 bbl., and No. 51, in partial production, 2,322 bbl. York Oils, 3, another new completion, yielded 7,010 bbl. for the month.

Turner Valley Completions

North Turner Valley: Foothills Oil & Gas, 6, LSD 5, 27-20-3w5, completed at 8,140 ft., has been given allowable of 350 bbl. a day.

Alberta Oil Incomes, 1, LSD 4, 34-20-3w5, finished at 6,974 ft., has completed official test and is waiting for allowable. Indications point to a major producer, Anglo-Phillips, 1, LSD 14, 15-20-3w5, is continuing production test of the upper lime.

Commoil, 3, LSD 13, 29-18-2w5, finished at 8,611 ft., flowed 1,355 bbl. a day through 1-in. choke, and is waiting for allowable.

West Central field: Royalite, 51, LSD 13, 5-19-2w5, finished at 7,413 ft., has been given allowable of 250 bbl. a day.

Pacific Petroleum, 5, LSD 6, 7-19-2w5, got the Madison at 7,638 ft. and is below 7,675 ft. after cementing at 7,656 ft.

Southwest Field

Northwest-Hudson's Bay, 4, LSD 14, 8-18-2w5, is below 5,159 ft.

Commoil, 4, LSD 9, 29-18-2w5, has spudded.

Pacific Petroleums, 4, LSD 3, 32-18-2w5, is below 7,470 ft. after getting the Kootenay at 7,200 ft.

West Central Field

Royalite, 52, LSD 12, 5-19-2w5, is below 5,190 ft.

Allied Royalties, 1, LSD 16, 6-19-2w5, is below 4,240 ft.

Southwest Petroleum, 4, LSD 4, 8-19-2w5, is in the Blairmore formation below 6,262 ft.

Arrow Royalties, 2, LSD 15, 13-19-3w5, is below 4,744 ft. Twin Valley Syndicate, 1, LSD 9, is below 4,300 ft.

Calmont-Northwest, 2, LSD 5, 18-19-2w5, is below 3,900 ft. Okalta Oil, 9, LSD 13, is below 6,765 ft.

Independent Royalties, 1, LSD 7, 24-19-3w5, is rigged waiting for water line.

North Turner Valley

Foothills Oil & Gas, 7, LSD 4, 27-20-3w5, is below 2,242 ft. Foothills, 5, LSD 13, is below 2,597 ft.

Home Oil, 6, LSD 8, 28-20-3w5, is below 1,093 ft. Home, 5, LSD 16, is below 3,951 ft.

Home, 1, LSD 8, 33-20-3w5, is below 3,488 ft.

Alberta Oil Incomes, 2, LSD 4, 4-21-3w5, is below 7,525 ft., after drilling through the Dalhousie sand, and should get the Madison lime around 7,900 ft.

New Tests to Start

In North Turner Valley Alberta Oil Incomes is planning to drill three additional tests. Tentative location was made for No. 3 some time ago in LSD 5, 4-21-3w5, but actual location for this and the other three wells will depend on the result secured in No. 2, which is now approaching the lime.

Royalite Oil Co. and its affiliated interests are locating three new tests, work on which will be started as soon as outfits are available from wells now drilling. In Southwest Turner Valley Northwest-Hudson's Bay, 5 has been located in LSD 10, 8-18-2w5, ¼ mile west of No. 2, the southernmost producer in the field.

In the west central area Royalite, 53 has been spotted in LSD 4, 19-19-2w5, offsetting Okalta Oil, 9 to the north. The new location is about a mile north and a little west of Calmont-Northwest, 1 producer. Royalite, 54, a northerly offset to Allied Royalties, 1, has been located in LSD 1, 7-19-2w5.

New Test for Clearwater

On the Clearwater structure, in the foothills north and west of Calgary, Clear Oils, Ltd., of Vancouver, has made tentative location for its No. 1 test in LSD 8, 2-35-10w5. Location, made by Geologist Stanley E. Slipper, is about a mile northwest of Altoba Exploration, 1, which last year was drilled to 3,052 ft. and encountered good shows of gas and crude. Diamond drilling outfit will be used. Clear Oils, Ltd., was incorporated recently under British Columbia charter officers being: President, Allan Sutton; general manager and secretary, Harold Davis; directors, Irvine B. Hewer, and M. L. Mott. Test is expected to spud about August 15.

Tests in the Foothills

On the Ram River-Clearwater structure, Ram River Oils, 2, 1-37-11w5, is at 406 ft. and waiting for completion of new 2-in. water line.

On the Moose dome McColl-Frontenac Oil Co. is surveying a road to the area where No. 1 test will be drilled.

In the Sheppard Creek area south of Turner Valley Alberta Pacific, 1, LSD 6, 7-16-2w5, is below 5,357 ft.

On the Grease Creek structure west of Olds, Grease Creek-Northwest, 1, LSD 2, 13-29-7w5, is cleaning out caving preparatory to resuming from 7,017 ft. Royalite Oil Co. is handling the drilling.

In the Mill Creek area, west of Pincher Creek, Alliance Royalties, 1, LSD 14, 11-6-2w5, is in the lower Blairmore formation below 5,504 ft.

Vermilion Field

In the Vermilion field, eastern Alberta, Vermilalta-Frankview, 1, LSD 16, 28-50-5w4, is below 2,118 ft. after getting a good show of crude around 2,055 ft. E. L. Cord and associates are shipping two drilling outfits to the field. The Vermilalta-Frankview interests have located another well offsetting Franco-Battleview, 2, LSD 13, 20-50-5w4, which is a good producer of heavy crude.

Lloydminster Field

In the Alberta end of the Lloydminster field, Lloyd-Gates, 1, LSD 9, 26-49-1w4, located 1 mile west and 1¼ miles south of Lloydminster, is below 275 ft. C. E. Mills is in charge of the test, using standard equipment. Location offsets Shaw Petroleums, 1, producer to the north.

Steveville Field

In the Steveville field, east of Calgary, Standard of British Columbia, 1 Princess, LSD 13, 22-20-12w4, bottoming in the Devonian lime at 6,155 ft., has resumed production tests of the upper horizons. Some oil shows have been encountered accompanied by water. Standard, 2 Tide Lake, LSD 9, 19-18-9w4, is below 3,328 ft.

LEGAL

U. S. Department of the Interior, General Land Office, Washington, D. C. Sale of oil and gas leases in Oklahoma. Notice is hereby given that leases of the oil and gas deposits in the following lands in the known geologic structure of the Red River oil field, Oklahoma, defined October 18, 1928, are offered to the responsible qualified bidder of the highest bonus per acre pursuant to the provisions of section 17 of the leasing act of February 15, 1920 (41 Stat. 437), as amended by the act of August 21, 1935 (49 Stat. 674), at the royalty rate scale in the lease form shown in Circular 1386, at a sale to be held in the office of the Geological Survey, Post Office Building, Ardmore, Oklahoma, at 10 o'clock A. M. on August 21, 1940: Unit No. 1: Beginning at a point in the river bed, South 61° 35′ E., 117.40 chains from the Texas-Oklahoma Boundary Survey reference Monument, "North Range Line, 15/14," which is 45.4 links south of the corner of Secs. 1, 6, 7, and 12, T. 5 S., Rs. 14 and 15 W., Ind. Mer., Oklahoma, thence in the river bed, along the East boundary of the Lone Star (upper tract) south 17.50 chains, to the Texas-Oklahoma boundary and the S.E. corner of the Lone Star (upper tract); thence along the boundary North 40° 09′ E., 3.60 chains, North 44° 09′ E., 3.13 chains, to the West boundary of the Burke Divide Lease (middle lease); thence in the river bed, along the West boundary of the Burke Divide Lease (middle lease) North, 12.50 chains, to a point which is the N.E. corner of the Corts Drilling Company and a common corner to the Burke Divide Lease (middle lease); thence in river bed, along the South boundary of the Burke Divide Lease (middle lease) West, 4.50 chains, to place of beginning, containing 6.7 acres. Unit No. 2: Beginning at a point on the north line of the Sam Sparks Survey, South 49° 49′ E., 104.63 chains from the Texas-Oklahoma Boundary Survey reference monument, "North Range Line 15/14," which is 45.4 links south of the corner of Secs. 1, 6, 7, and 12, T. 5 S., Rs. 14 and 15 W., Ind. Mer., Oklahoma, thence along the north line of the Sam Sparks Survey South 60° 04′ W., 18.77 chains, South 76° 15′ W., 4.00 chains, to east boundary of the Burke Divide upper permit; thence in river bed along the boundary of the Burke Divide upper permit, South 2.08 chains, East 20.15 chains, to the Southwest corner of the Burke Divide upper lease; thence in the river bed along the west boundary of the Burke Divide upper lease, North 12.40 chains to place of beginning, containing 13.5 acres. Unit No. 3: Beginning at the NW cor. of the Melish lower permit, Guthrie 014088. Thence N. 12° 30′ W., 2.15 chains, more or less, to the medial line of Red River. Thence following the medial line, southwesterly, 26.20 chains, approximately, to the east bdy. of the Mutual lease. Thence along the east bdy. of the Mutual lease, S. 12° 30′ E., 0.90 chains, more or less. Thence along the bdrs. of the Melish middle lease, N. 57° 30′ E., 6.38 chains, N. 76° 30′ E., 5.95 chains, S. 12° 30′ E., 38.00 chains, more or less, to the Texas-Oklahoma Bdy. Thence along the said State bdy. line easterly, 34.00 chains, more or less, to a point. Thence N. 8° 00′ W., 1.00 chain, more or less, to the SE cor. of the Melish lower lease. Thence along the bdrs. of the Melish lower lease and permit, S. 76° 00′ W., 19.78 chains, N. 12° 30′ W., 40.00 chains, to the place of beginning, containing approximately 64 acres, subject to variation arising from changes in the position of the medial line and of the south bank of the river since December 31, 1923. Unit No. 4: Beginning at the SE cor. of the Melish lower lease, Guthrie 014088. Thence S, 8° 00′ E., 1.00 chain, more or less, to the Texas-Oklahoma Bdy. Thence along the said bdy., northeasterly, 68.00 chains, more or less Thence, west, 21.00 chains, more or less to the east bdy. of the Patterson lease Thence along the bdy. of the Patterson lease, south 10.00 chains, to the SE cor. of the Patterson lease, west 17.50 chains, to the SW cor. of the Patterson lease, north 22.80 chains, to the NW cor. of the Patterson permit. Thence north, 2.40 chains, more or less, to the medial line of Red River. Thence along the medial line, southwesterly, 46.00 chains, more or less, to the east bdy. of Unit No. 3. Thence S. 12° 30′ E., 2.15 chains, more or less, to the NW cor. of the Melish lower permit. Thence along the bdrs. of the Melish lower permit and lease, N 76° 00′ E, 20.00 chains N. 52° 30′ E., 3.45 chains, S. 8° 00′ E., 41.55 chains, to the place of beginning, containing approximately 150 acres, subject to variation arising from changes in the position of the medial line and of the south bank of the river since December 31, 1923. Two or more units may be consolidated in a single lease to the same qualified bidder provided the acreage does not exceed the maximum prescribed by law. The successful bidder must deposit on the day of the sale a certified check on a solvent bank or cash for 1/5 of the amount of each bid and file the showing of qualifications to receive a lease, required by section 7 of General Land Office Circular 1386. The remaining 4/5, together with the annual rental in advance at the rate of $1 per acre must be paid, and a $5,000 corporate surety bond must be furnished prior to the issuance of the lease. The bidders are warned against violation of the provisions of section 59 of the United States Criminal Code approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Commissioner, General Land Office.

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MISSISSIPPI AND SOUTHEAST

Wildcat Wells Run High In Montgomery County

By GEORGE WEBER

JACKSON, Miss., Aug. 5.—Several wildcat tests in Mississippi and Alabama are being closely watched as they drill critical depths, while new operations share in interest. Leasing continues to decline in Mississippi as activity moves to Alabama. South Central Mississippi has become the most active leasing section of that state, while transfers in large volume are made in coastal and western Alabama. Geophysical work is also off in Mississippi with additional surveying under way in Alabama.

Several deep tests in Mississippi are being closely watched. Montgomery County leads in the number of such active tests. Gulf, 1 Fred Parker, reported to be running about 800 ft. high, is drilling below 2,525 ft. This test topped the Selma chalk at 450 ft., the Eutaw at 1,265 ft. and the Tuscaloosa at 1,575 ft. Drilling on a well-defined structure, the Gulf test is expected to reveal interesting possibilities in the Lower Cretaceous if present, or the Paleozoic formation. It is not known whether the structure is a salt dome, igneous plug or other type, but developments over the next few days will be of considerable interest.

About 6 miles northwest of the Gulf test, Preston Oil Co. drilled No. 1 McLean in 1921. The test showed oil in the Tuscaloosa at 3,412-50 ft. but was abandoned at 4,260 ft. The wildcat topped what was considered as the Lower Cretaceous at 3,450 ft. and was still in formations of that age at total depth.

In Oktibbeha County, about 30 miles southeast of the Gulf test, the Oktibbeha Oil & Gas Co., 1 Murphy also encountered Lower Cretaceous at 3,330 ft., and drilled 280 ft. of it before going into the Pennsylvanian at 3,610 ft. From these indications, the Gulf test is expected to show some Lower Cretaceous. Beds already drilled in the wildcat show the results of pronounced uplift and faulting.

W. O. Allen, 1 Palmertree, another Montgomery County wildcat, is due for spudding in 30-17-7, about 13 miles south of the Gulf test. A third wildcat, E. R. Henderson, 1 Columbian Mutual Life Insurance Co., in 36-21n-5e, about 15 miles northwest of the Gulf test, is drilling below 1,685 ft. Another important structure called the Winona-Vaiden structure, lies between those two towns, southwest of the Gulf test and northwest of the Allen test.

J. W. Richardson, 1 Berry, located in 15-9n-19w, Jefferson Davis County, is also being closely watched as another wildcat running high. The test topped the Selma chalk at 6,642 ft. after a fishing job, resumed drilling and at latest reports was below 7,462 ft. This test is in South Central Mississippi.

Another wildcat in the southern section of the state, Fohs, 1 Bond Lumber Co., 17-1s-11w, Perry County, is running high. The Selma chalk was topped at 5,950 ft. and latest reports carried the well as drilling below 6,650 ft. Information is being withheld on this well.

In the same area, in Perry County, two wildcats are spudding. This new activity, coupled with the important tests already under way, brings southern Mississippi more to attention of operators, whose interest has in the past several months been directed principally to the west-central and central parts of the state. Still another wildcat is seen for the area, in Jefferson Davis County. There Exchange Oil Co. is moving derrick into No. 1 J. J. Newman Lumber Co. in 36-7n-19w, about 2 miles northwest of the F. E. Courson, 1 Bailey, which was drilled and abandoned early this year, after getting indications of oil sands at 5,980-90 and 5,735-40 ft. The test was drilled to 6,012 ft.

MISSISSIPPI—NEW OPERATIONS

Jefferson Davis County—Wildcat

Exchange, 1 J. J. Newman Lbr. Co., 330 ft. SE cor., NE 36-7n-19w. Drk.

Warren County—Wildcat

W. O. Allen, 1 Tom Henry, C W½ SW 4-7n-4w. R.U.

Yazoo County—Tinsley

Jones & O'Brien Bros., 3-C Stevens, SE NE 11-10-3. Bldg. roads.

Union Producing, 1 Adcock, SE NE 24-10-3. Clearing loc.

MISSISSIPPI COMPLETIONS

Tinsley—Yazoo County

Hassie Hunt, 2-B Lammons, C NE NE 1-10-3, 432 bbl., ¾-in. choke, Perry sd. 5,344-67 ft., perf. 5,352-60 ft., T.D. 5,470 ft.

ALABAMA

In Marion County, Seaboard Oil Co. is approaching the Hartsell sand in No. 1 Clarke et al, 28-11s-14w. The test is drilling in lime below 1,900 ft. Two other operations are seen for the area, with the announcement that Frederic Mellen, former Mississippi Survey geologist, and Raymond Gear, have completed arrangements for drilling wildcats in 10-4s-15w, Colbert County, and 4s-11e, Tishomingo County on either side of the state line. Operations are due to be resumed on two coastal Alabama wildcats in Mobile County, located on the Grand Bay and Bayou Le Batre prospects. Both are shut down at depths below 6,500 ft. and are scheduled to go to 8,500 ft.

MISSISSIPPI

Hinds County

Harvey Robinson and J. P. Frame's No. 1 Alford, SW SE Sec. 18-6n-1e. Set 10¾-in. csg. 750 ft.; D.S. stuck 3,094 ft.; rec. all but 200 ft.; S.D.W.O.

Holmes County

L. A. Hawkins' No. 1 B. W. Humphrey, 1,980 ft. S, 330 ft. W NE cor. Sec. 33-13n-2e. T. chalk 4,014 ft.; T.D. 4,908 ft.; unable to whpstk. by D.S. at 800 ft.; S.D.

Jefferson Davis County

J. W. Richardson's No. 1 M. Berry, C SW NE Sec. 15-9n-19w. T. Selma 6,642 ft.; drlg. chalk 7,467 ft.

Jones County

T. N. Smith's No. 1 Hollifield, NW SW NW Sec. 20-8n-12w. Spdg.

R. W. Williams' No. 1 Eastman-Gardner, NE SW Sec. 7-8n-12w. Spdg.

Kemper County

R. E. Manning's (Crabb et al) No. 1 W. T. Caldwell, NW SE Sec. 25-9n-15w. 10¾-in. csg. 86 ft.; set 6-in. csg. 1,320 ft.; cd. 3,265-72 ft.; rec. 2 ft. tight sd.; very slight S.O.&G.; S.D. 3,300 ft.

R. M. Crabb et al's No. 1 Land, NW NE Sec. 12-10n-14e. Spdd. with port. rig; S.D.

Madison County

Ralph A. Johnston's No. 1 J. W. Locke School Land, NE NE Sec. 16-11n-3e. Set 10¾-in. csg. 610 ft.; drlg. chalk 4,496 ft.

Owen & Fraim's No. 1 Talmadge, SW NE Sec. 22-11n-3e. W.O. material.

W. G. Ray's No. 1 Haffey, C Lot 1, SE SE Sec. 7-10n-5e. Set 9⅝-in. csg. 507 ft. (cor.); drlg. 4,275 ft.

Stanolind Oil & Gas Co.'s No. 1 Higgason, C W½ SW Sec. 10-11n-5e. Set 10¾-in. csg. 583 ft.; T. Selma 3,429 ft.; T. Eutaw 4,285 ft.; cd. 4,313-31 ft.; rec. 6 ft. fine sd., salty taste; drlg. 4,883 ft.

Monroe County

Willmut Gas & Oil Co.'s No. 1 Rye, 300 ft. N and E C Sec. 22-15n-17e. Set 10¾-in. csg. 625 ft.; drlg. 3,424 ft.

Montgomery County

W. O. Allen's No. 1 J. C. Palmertree, C SE SW Sec. 30-17-7e. M.I.M.

Gulf Ref. Co.'s No. 1 Fred Parker, SE SW Sec. 22-19n-7e. Set 9⅝-in. csg. 849 ft.; cd. sds. 1,263-73 ft., 1,483-1,503 ft. and 1,875-95 ft.; no shows; T. Selma 450 ft.; T. Eutaw 1,265 ft.; T. Tuscaloosa 1,575 ft.; drlg. 2,531 ft.

E. R. Henderson's No. 1 Columbian Mutual Life Ins. Co., Sec. 36-21-5e. Set 10¾-in. csg. 250 ft.; drlg. 1,693 ft.

Neshoba County

J. P. Evans' No. 1 Mary Oliver, C SW Sec. 18-9n-13e. Set 10¾-in. csg.; drlg. 3,477 ft.

Perry County

Fohs Oil Co.'s No. 1 Bond Lbr. Co., 907.5 ft. N, 660 ft. W, C Sec. 17-1s-11w. Set 10¾-in. csg. 1,651 ft.; T. Selma 5,950 ft.; drlg. 6,650 ft.

Prentiss County

Home Dev. Co.'s No. 1 Mrs. A. Allen, Sec. 8-7s-9e. Drlg. 1,917 ft.

Scott County

E. L. Martin's No. 1 Newell Mineral Lse. Co., 660 ft. W, 330 ft. S. NE cor. Sec. 5-6n-7e. Set 9⅝-in. csg. 803 ft.; cd. 4,902-20 ft.; rec. sd., sdy. sh., salty taste; Drlg. 7,482 ft.

Tallahatchie County

I. P. Lerew's No. 1 L. Westbrook, SE SE Sec. 18-23n-2w. R.U.

Yazoo County

Barnsdall Oil Co.'s No. 1 T. R. Woodruff, NW NW Sec. 6-10-2. Loc.

Joe Dawson's No. 1 J. W. Mullican est., C NW NW Sec. 19-11n-3w. R.U.

Edward DeLoach's No. 1 Wilburn, Sec. 6-12n-3w. M.I.M.

Leon Dunn's No. 1 H. H. Pepper, Sec. 26-12n-2e. T.D. 4,943 ft.; stuck Schlumberger tool; S.D. (cor.).

Exchange Oil Co. and Kingwood Oil Co.'s No. 6 Wilburn, 1,320 ft. S, 440 ft. W NE cor. Sec. 31-12-3. Drlg. 3,736 ft.

Exchange Oil Co.'s No. 5 Wilburn, 440 ft. S, 220 ft. E, NW cor. Sec. 31-12n-3e. Set 10¾-in. csg. 449 ft.; T. Eutaw 4,805 ft.; cd. 4,820-35 ft.; rec. 8 ft., 2 ft. shly. sd., 5 ft. sdy. sh., 1 ft. por. sd., bleeding oil; cd. 4,868-74 ft.; very por. sd., salty taste; pulled in drk. while trying D.S.T.; rebldg. drk.; T.D. 4,874 ft.

Kiran Oil Co.'s No. 1 J. J. Milner, 665 ft. S, 682 ft. E, NW cor. Sec. 7-10n-2w. Loc. abd.

Hassie Hunt's No. 3-B Lammons, C SE SE Sec. 36-11n-3w. Set 10¾-in. csg. 606 ft.; W.O.C.

E. C. Johnston's No. 5-B Brumfield, C NW SE Sec. 2-10-3. Drlg. sdy. sh. 2,762 ft.

Kingwood Oil Co.'s No. 1 P. P. Shipp, 440 ft. W, 1,320 ft. S, NE cor. SW Sec. 4-10n-1e. Set 10¾-in. csg. 537 ft.; cg. 5,943 ft.

Magnolia Pet. Co.'s No. 1 Milner, C NW NW Sec. 7-10-2. Spdd.

Rowan, Hope & Thompson's No. 1 Cook, 440 ft. S, 330 ft. E NW cor. Sec. 6-11n-3e. Rng. surf. csg.

Union Prod. Co.'s No. 3 Cesana, 549 ft. N, 1,933 ft. E, SW cor. Sec. 18-10-2. Set 10¾-in. csg. 641 ft.; T. Selma 4,612 ft.; set 7-in. csg. 4,847 ft.; T.D. 4,850 ft.; W.O.C.

Union Prod. Co.'s No. 1 Powell, C SE SW Sec. 36-11-3. Set 10¾-in. csg. 646 ft.; drlg. bl. sh. 4,840 ft.

Union Prod. Co.'s No. 5 Twiner, 2,019 ft. S, 2,118 ft. W, NE cor. Sec. 1-10-3. T.D. 4,105 ft.; fsg. 3,275 ft.

ALABAMA

Franklin County

E. O. Heath's No. 1 W. O. Hester, SW SW Sec. 4-6s-12w. R.U.C.T.

Lawrence County

Mid-Southern Pet. Co.'s No. 1 Jackson, NE NE Sec. 30-7s-6w. Set surf. csg.; drlg. 1,106 ft.; no report.

Marion County

Seaboard Oil Co.'s No. 1 Clark et al, 360 ft. W, 660 ft. N, SE cor. SE SW Sec. 28-11s-14w. Shot 638-45 ft. with 130 qt. nitroglycerin; crooked hole; skdd. over; drlg. gr. L. 1,913 ft.

Mobile County

Tom Daly et al's No. 1 Fort, NW cor. SE SE Sec. 2-6s-4w. S.D. 6,518 ft.; will deepen to 8,500 ft.

Walker County

Champlin O. & R. Co.'s No. 1 Galloway Coal Co., Sec. 12-13s-10w. Set 12-in. csg. 1,100 ft.; drlg. 1,316 ft.

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PATTERSON-BALLAGH CORPORATION—*Los Angeles, Houston, New York City*

Sinlair Met Competition in Reducing Crude Prices

(Continued from Page 27)

dent squarely raises the question of the right of the Railroad Commission of Texas to fix the price of crude on the fiction that it is preventing waste.

We understand well the basic reasoning on which price fixing could be defended, if the law permitted it to be done. Price fixing by indirection, price fixing by reprisals against those who meet competition, price fixing by subterfuge is unjustified as well as illegal. Let us speak no more of the reprisal against Sinclair in the 1,600-bbl. per day cutback in Walnut Bend. That will appear insignificant as we proceed. Let us come immediately to the consideration of the effect of the sum total of all of the acts of the commission that are intended to sustain the price of crude in Texas. One state in the Union has within the year produced up to the peak of something more than 500,000 bbl. per day of unprorated oil. This is good oil. It is produced at greatly less cost to the producer than Texas oil. The transportation cost against it is lower than that of Texas because it is closer to the center of the principal markets. It can be marketed at greater profit than that obtained by the producers of Texas and other prorated states.

To us, it would appear that to the extent of the shutdowns and cutbacks, cheaper unprorated oils have taken the place of Texas oil in the market. In this great program the commission undoubtedly believed that it was, to the best of its ability and with the only implements it had on hand, rendering a real service to the financial well being of the industry. Or should we pursue the fiction and say that there was no thought of maintaining the price of crude in Texas and all this was done for the purpose of preventing waste of petroleum and maintaining the proper bottom-hole pressure for conservation purposes?

The industry cannot operate with equal opportunity for all so long as it remains 60 per cent prorated and 40 per cent unprorated. It is not equitable to permit an operator in one section to produce enough oil to pay for his well in a few days, weeks, or months, while an operator in another section must wait for years for the return of his investment. Especially is this inequitable when both operators live under the same government and sell in the same market.

●

Hurley Explains Sale of Mexican Properties

(Mr. Hurley, in the fore part of his statement on the recent sale of Sinclair's oil properties in Mexico to the government and the purchase of Mexican crude to be imported into this country, explained the early negotiations which followed the expropriation of oil properties in March 1938. This explanation included the reasons for the break with other companies whose properties were expropriated and the events leading up to the separate negotiations with the government. The remainder of the statement follows.)

THE result of these negotiations, as most everyone knows, was an agreement between the Government of Mexico and the Sinclair companies whereby the wholly owned Sinclair or Consolidated companies in Mexico sold their interests in Mexico to the Republic of Mexico for an agreed consideration in money which was accepted by the companies as adequate and effective compensation. This brought the transaction completely within the conditions required by the U. S. State Department, as officially announced in public documents on the subject. Mexico is paying promptly under the agreement. At the same time a Sinclair company made another contract for the purchase of oil from Mexico. The Sinclair agreements with Mexico are legal under the laws of Mexico. They are legal under the laws of the United States. They are legal under international law.

Let us frankly face the effect of the Sinclair transaction with Mexico upon the oil industry of the United States. Elsewhere in the news we have read and we have heard that the Sinclair importations of crude and gasoline into the Texas market have caused instability and cuts in the local retail markets of Texas. We pay particular attention to what Congressman Beckwith has said because, as he states himself, he is not only a member of Congress: he is an oil producer. This is an accomplishment that but few have achieved. It gives Mr. Beckwith membership in the two greatest debating societies on earth.

Let us have a look at the facts. The average imports of foreign oil into the United States market for the first 5 months of 1940 averaged 160,000 bbl. per day. During the month of June the importations of oil into the United States market reached an average of well over 210,000 bbl. per day. During the week ending July 6, 1940, importations of foreign oil into ports of the United States reached the peak of 305,714 bbl. per day. This indicates a vast increase in imports. These imports will continue to rise unless something is done about it. The oil-purchase contract between Mexico and Sinclair provides for the taking of 5,000,000 bbl. of Mexican oil per year for a period of 4 years, that is to say, 5,000,000 bbl. of oil per year will be imported by the Sinclair companies into the United States market if none of it is sold elsewhere. By dividing the 365 days of the year into 5,000,000, we find that the "excessive quantities" of Mexican oil imported by Sinclair amount to approximately 13,671 bbl. per day for the year.

There is another little item worthy of consideration in regard to importations of foreign crude. Oil which is coming in under trade-agreement quotas pays an import tax or tariff of 10½ cents per barrel. Oil that does not come in under trade-agreement quotas pays an import tax or tariff of 21 cents per barrel. Ninety-seven per cent of this trade-agreement-quota oil comes from nations other than Mexico. Only 3 per cent comes from Mexico. Our competitors are the beneficiaries of this tax reduction. Up to this time none of the Sinclair importations from Mexico has come within the 3 per cent quota allotted to Mexico. This little item of tax saving by our competitors will, at the present great rate of imports, run into a number of millions of dollars per annum.

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Hurley Charges Purpose of Stolen-Property Act to Prevent Further Mexican Settlements

WASHINGTON, D. C., Aug. 6.—The Sheppard-McCormack bill to amend the National Stolen Property Act was actually intended to embarrass those oil companies who have settled with Mexico on the expropriated oil lands, charged Patrick J. Hurley, attorney for the Consolidated Oil Corp., at hearings held this week by a House subcommittee. President Hoover's war secretary also said the move was made to prevent settlements by additional oil companies.

The bill, passed by the Senate on June 22 with little publicity and no hearings, would prohibit interstate commerce in property confiscated by foreign governments. A representative of the State Department pointed to the difficulties that would be caused with foreign governments, and stated the Supreme Court had decided it lacked jurisdiction in such matters.

Mississippi Entering Settled Exploration Stage

(Continued from Page 23)

to the west, where edge wells show up to 102 ft. of oil sand. Drilling in that direction has been forestalled temporarily by ownership litigation. Recently, the principal extensions have taken place on the north end where other sands have been opened to production. Important locations staked along the east edge north of the fault will reveal much regarding the possibilities of eastward extension of the field on the north end.

Other Sands

Although the Woodruff sand figures largest in the field's estimated reserves, other producing bodies in the underlying Eutaw formation show added possibilities. The principal Eutaw pay is the Stevens sand, opened early in the field's history. This sand produces in those southwest wells where the Woodruff sand is missing. North of the fault, recently drilled wells in Sections 1 and 36 have opened production in other sands of that level. Although such new sands have been variously named the "Slick," "Lammons" and "Twiner" sands, corresponding to the fee names of the wells producing from them, they are generally classed in what geologists term the "Stevens group." Faulting makes subsurface correlation of such sands difficult. While they are not considered as one continuous sand body, they lie so near the same level that separate classification cannot be given them at the present stage of development.

A third sand body, lying between the Woodruff and the Stevens group, is definitely classed as a separate pay. This sand, called the Perry sand, produces a lighter crude with definitely different characteristics. The Perry sand was first opened to production on the south edge of the field in Union Producing Co.'s No. 4 Perry, completed on the pump. It had no Woodruff sand, showed salt water with some oil in the underlying Stevens sand, and tested heavy oil in a still deeper sand in the Tuscaloosa formation.

The Perry sand was tested in other subsequently drilled wells, but was not opened to actual production again until recently. In the north end of the field two good flowing wells, Union Producing Co.'s No. 2 Partridge, and Hassie Hunt's No. 2-B Lammons, have extended production in the sand.

Although these deeper sands may prove important reserves in areas beyond the field's present limits, their known extent is too limited to give them appreciable reserve estimates.

Pickens

Pickens, the state's second oil field, has received little attention since its discovery. Production was defined on the northeast by a diagonal offset failure and wildcats drilled north and northwest of the field were dry holes. Subsequent development to the south and west resulted in completing three offset wells on 10-acre spacing. Two of the four producers at Pickens are now on the pump.

The field will be watched closely during the next few days, however, for three field outposts on the west, south, and southeast, and a wildcat located 3 miles southeast of the field are drilling. Some geologists believe that the present productive area is located on the northwest flank of the structure, and much acreage to the southeast has been taken on that assumption. The wildcat, Ralph Johnston's No. 1 Locke, located in Madison County, is generally believed to be drilling a separate structure although the two may connect. Completion of the four tests now under way will reveal much regarding Pickens' possible extent.

Personal Paragraphs

D. W. HARRIS, vice president and general manager, and HENRY C. WALKER, JR., head of the legal department of Arkansas Fuel Oil Co., Shreveport, La., have been named to the national forum of executive opinion, sponsored by Fortune Magazine.

L. S. REID has joined the chemical engineering staff of the University of Oklahoma at Norman. He has been actively engaged in field work and recently resigned as development engineer for Black, Sivalls & Bryson, Inc.

HANSEL CREEL MILHOAN and JOEL A. WOLFE, presidents of the Milhoan Drilling & Production Co. and Summit Drilling Co., respectively, have sailed from Toledo, Ohio, with their families on a Great Lakes and river cruise. Following the cruise, their 39-ft. cabin-cruiser launch will be shipped to Grand River Lake in Oklahoma.

GEORGE DAVIES, formerly assistant sales manager with the Grogan Oil Co., Shreveport, La., has joined the staff of the Spencer Petroleum Co., Chicago, and will be stationed in Milwaukee.

GEORGE SAWTELLE, president and general manager, Kirby Petroleum Co., Houston, Tex., is spending this month in military training with the Civilian Military Training Corps at Fort Sam Houston, San Antonio, Tex.

CLARE D. GARD, of Union Oil Co., has been promoted to superintendent of natural-gasoline operations of the company and in his new capacity will report to R. D. GIBBS, manager of gas operations for the company.

JOE FORTENBERRY, formerly in the Bartlesville, Okla., office of Phillips Petroleum Co., has been transferred to Amarillo, Tex., where he will be active in the land and scouting departments. He is a former all-American basketball player and Olympic games contestant.

PAUL L. HOPPER, formerly head of the petroleum and coal section of the Bureau of Foreign and Domestic Commerce, resigned on Monday of this week to go on active duty as a senior-grade lieutenant in the Navy. Mr. Hopper has been in charge of petroleum foreign-trade promotion and statistics for several years, reporting to the Department of Commerce.

W. TOM HARDIN, office manager of the Pure Transportation Co. at Mount Pleasant, Mich., has joined the golfers' hole-in-one club. He gained the hole-in-one distinction a few days ago by plunking his wood shot on the eighth hole into the cup, a distance of 238 yards, at the Mount Pleasant Country Club course.

W. P. NORRIS, formerly division superintendent for Eureka Pipe Line Co. at Parkersburg, W. Va., retired from active service August 1 to end 52 years' service in the pipe-line industry. He served in many capacities during this period, in construction, operating, and maintenance phases and at his retirement was a member of the board of directors. Born in 1871, he worked for pipe-line companies in Ohio, Pennsylvania, and West Virginia, and is known by practically all of the old-timers in those states. In retirement Mr. Norris may later look after oil properties held in Ohio.

J. R. PEMBERTON, who has recently retired as California oil umpire, has opened an office at Los Angeles for consulting practice as petroleum engineer.

IRA H. CRAM, who has been division geologist for Pure Oil Co., Tulsa, has been transferred to the Chicago offices of the company where he will have the title of assistant to the chief geologist.

IRA H. CRAM *MYRON C. KIESS*

In June Mr. Cram completed 16 years of service with the company. MYRON C. KIESS, who has been on geological and geophysical work in the company's southwestern division for 15 years, has been made division geologist to take Mr. Cram's former post and will have his headquarters in Tulsa.

GEORGE A. WILSON, attorney for the Louisiana Department of Conservation, represented Conservation Commissioner B. A. HARDEY as observer at the recent Texas Railroad Commission's statewide hearing in Austin.

LEO WILMUTH, formerly connected with the sales department of the Grogan Oil Co., interests in Shreveport, La., has joined the Shamrock Oil & Gas Co., Amarillo, Tex.

GUY WHATLEY, assistant traffic manager of Hurricane Petroleum Co., Shreveport, La., has resigned to become associated with the E. C. Johnston refinery, recently placed in operation at Vicksburg, Miss.

FRED L. RICHARDSON, a director of Community Natural Gas Co., Dallas, Tex., since its organization, was named vice president of the company at a meeting of the directors last week. He has been with the firm since 1918.

C. P. (DOC) WATSON, vice president of Seaboard Oil Corp., has accepted the task of chairman of the program committee for the coming fall meeting of the A.I.M.E. and has just about finished all preliminary details.

WALTER S. PYRON, vice president of Gulf Oil Corp., Houston, Tex., a brigadier general and commanding officer of the Fifty-sixth Cavalry Brigade, Texas National Guard, is spending 3 weeks in annual maneuvers of the guard taking place this year in Southeast Texas and Southwest Louisiana.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

White and Sinclair of Tulsa bought a large tract in the Panuco fields from Jose de Soria for a purchase price of over $1,000,000.

The Western Refiners Association, meeting at Tulsa, resolved that members would not sell any of their products to any jobber or marketer who sold below cost or below a reasonable margin of profit or demoralized the market by selling below the tank-wagon price.

A new company has been incorporated in California under the firm name of the Shell Co. of California, capitalized at $35,000,000.

20 YEARS AGO

To relieve the gasoline shortage in California, 1,500,000 gal. were shipped to Union Oil Co. in San Francisco from Texas, southern Oklahoma, and Kansas.

The diesel-driven ore steamer Cubore has completed successfully her trial trip. The engine, designed by an American, built by Americans for use in an American ship, represents this country's first successful attempt in a field that has been held exclusively by foreign interests.

10 YEARS AGO

A committee of Texas producers, of which Robert R. Penn of Dallas is chairman, recommended that the Railroad Commission issue a statewide proration order curtailing production about 125,000 bbl. daily.

The hyrodgenation unit of the Standard Oil Co. (New Jersey) located at its Bayway, N. J., refinery, has been completed and is now ready for operation.

CHESTER BAIRD, chief geologist, Mene Grande Oil Co., was among the passengers on the Grace liner Santa Paula, which sailed Friday from New York for Maracaibo, Venezuela.

HARRY F. SINCLAIR, chairman of Consolidated Oil Corp., New York, recently renewed his license as a Kansas pharmacist for the forty-second time. He first worked as a pharmacist in Independence, Kans., in 1898.

FRANK V. WILLIAMS, formerly manager of Lone Star Gas Co.'s district office at Corsicana, Tex., has been named division superintendent. He succeeds LEON M. SCHOLL, who was moved to the Denison-Sherman division with headquarters at Denison, Tex.

GAIL F. MOULTON has resigned from the staff of Ralph E. Davis, Inc., engineers, to engage in independent consulting work. Pending completion of work in Montana and Illinois he will make his headquarters at his home in Mountain Lakes, N. J.

ROBERT C. HART, independent operator of London, England, who has drilled several wells in North Central Texas, was in Fort Worth, Tex., last week and expects to stay until about August 10 at which time he will return to England. He left his home country last April and has been in South America until coming to Fort Worth.

S. K. LOY, chief chemist for Standard Oil Co. of Indiana at Casper, Wyo., resigned August 1 in order that he might devote more time to his personal business interests. He joined the Midwest Refining Co. in 1918 as chief chemist, and continued in that position when the plant was acquired by the Standard company. Dr. Loy is president of the Riverton Petroleum Co.

From Lawyer to Oil Man

HENRY L. O'BRIEN, first vice president and director of Cities Service Co., is an ex-lawyer. He was a lawyer for nearly 20 years, and has been a full-fledged oil man for only a few months — since May 15, 1940, in fact, when he was elected to his present executive position.

HENRY L. O'BRIEN

A native of Brooklyn, N. Y., Mr. O'Brien attended the public schools and Polytechnic Preparatory School. He was graduated from the law school of Cornell University in June 1921, and became associated with the firm of Frueauff, Robinson & Sloan, general counsel for Cities Service Co. He remained with this firm and its successor firms until he deserted law for oil last spring. At the time of his withdrawal from law practice he was one of the senior partners in the firm of Frueauff, Burns, O'Brien and Ruch.

Mr. O'Brien's contacts with the oil and gas industry have been entirely on the legal side. He supervised the acquisition of a great many of the chains of filling stations acquired by the Cities Service interests over the past 20 years, and has had considerable experience in connection with corporate mortgages on oil and gas properties, pipe lines, etc.

In the early summer he was elected a director of the Arkansas Natural Gas Corp.

Mr. O'Brien is married and has three children, a girl and two boys. His club affiliations include memberships in the Bankers Club, the University Club, the Down Town Association, Shinnecock Hills Golf Club, and the Cornell Club of New York.

JACK NICHOLS, independent operator of Amarillo, Tex., together with his wife and two children, left last week for a vacation trip to Alaska and northwestern Canada. They plan to take in the San Francisco fair on the return trip.

WALTER K. SCHMIDT, vice president and general counsel for Wolverine Natural Gas Co., Grand Rapids, Mich., was elected to the board of directors last week to fill a vacancy caused by the death of Frank Peterson of Rockford.

JOHN H. KELSEY, former district land man for Sinclair Prairie Oil Co. in its district office at Midland, Tex., has been moved to Corpus Christi, Tex., where he will assume similar duties. He succeeds C. W. CHANCELLOR who has been moved to Oklahoma City, Okla.

C. E. (CLIFF) SAVAGE, formerly chief scout for the eastern division of Carter Oil Co. with headquarters at Mattoon, Ill., is now stationed at Bismarck, N. D., where he was charge of scouting activities in that area. He recently returned from a leave of absence.

J. Y. WHEELER, formerly division superintendent for Lone Star Gas Co. in its Denison, Tex., office, has been named manager of the El Paso district for Texas Cities Gas Co. He succeeds R. S. READING who has been named district manager for Community Natural Gas Co. at Corsicana, Tex.

ROY S. SULLINS, engineer for Humble Oil & Refining Co., who recently returned from Europe, addressed a meeting of the Gulf Coast section of the American Institute of Mining and Metallurgical Engineers at Houston, Tex., on the evening of August 6. His subject was "Drilling and Mud-Control Practices in Europe and the Near East."

MAX FISHER, general manager of Aurora Gasoline Co., Detroit, Mich., was speaker Tuesday evening, August 6, at the August meeting of the Michigan Oil Refiners Association at the Book-Cadillac Hotel, Detroit. Arrangements were made by HERMAN BERG, of Alma, secretary and traffic manager.

Shifts: P. M. PETERS, engineer, Texas Co., from Crowell, Tex., to St. Jo, Tex. F. C. HENDERSON, president, Agua Dulce Co., from San Antonio, Tex., to Saranac Lake, N. Y.; A. J. HIBBLER, geologist, Texas Co., from New Orleans, La., to Newton, Miss.; W. M. BILLS, engineer, Sun Oil Co., from Carthage, Miss., to Laurel, Miss.; ROBERT M. TESAR, engineer, Carter Oil Co., from Meridian, Miss., to Calhoun, Miss.; C. K. JORDAN, engineer, Continental Oil Co., from Meridian, Miss., to Woodville, Tex.; NORMAN CRAWFORD, engineer, Union Oil Co., from Seattle, Wash., to Beverly Hills, Calif.; J. M. LILLIGREN, superintendent, Sinclair Prairie Oil Co., from Covington, Okla., to Parkersburg, W. Va.; TOMAS SUERO, geologist, Y.P.F. representative, Argentina Government, from Norman, Okla., to Pure Oil Co., Olney, Ill.; H. N. K. BROOKINGS, geologist, Phillips Petroleum Co., from Enid, Okla., to Oklahoma City, Okla.; H. L. PHILLIPS, president, Sinclair Prairie Oil Co., from Tulsa, Okla., to New York City.

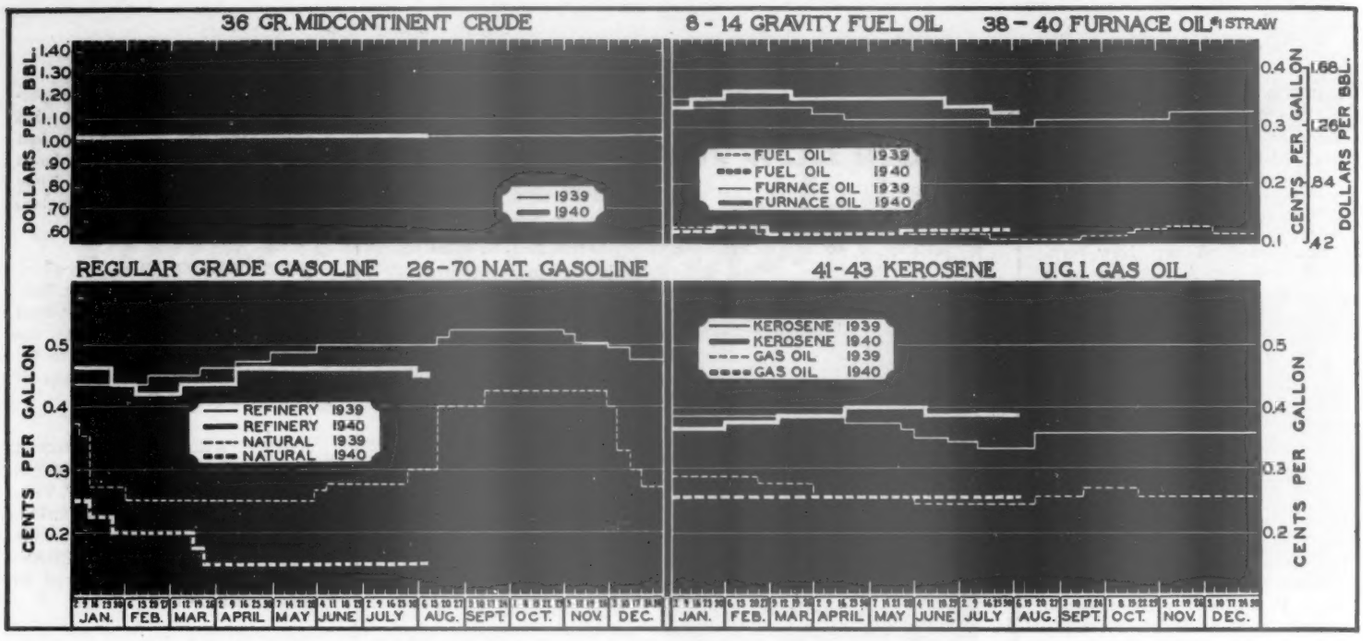
PAUL HUGGINS, general manager of Western Gulf Oil Co., with offices in Los Angeles, Calif., was critically injured when his car, en route to Bakersfield on business, collided with another en route to Los Angeles at the foot of the Grapevine grade. The driver of the other car was instantly killed, but Mr. Huggins, at latest reports, was on the road to recovery unless complications set in.

C. A. MILLER, the Texas Co., Houston, Tex., and R. E. DONOVAN, Standard Oil Co. of California, San Francisco, are among the eight industrial safety experts chosen to supervise a program to guard the productive manpower of the nation engaged in defense activities. Mr. Miller has charge of Region 7, Texas, Oklahoma, Arkansas, and Louisiana, and Mr. Donovan Region 8, consisting of 11 western states.

RAY A. GREGORY, of Petrolia, Ont., Canada, will leave shortly for Trinidad, British West Indies, under contract to drill for Trinidad Leaseholds.

F. L. WHERAN was elected president of the British Dominion Oil & Development Corp., at Calgary, Alta., Canada, at the annual meeting last week. Other officers elected were L. H. FENERTY, vice president; HARDIE TURNBULL, secretary-treasurer; MRS. L. STOKES, assistant secretary. Two directors elected were CLIFTON C. CROSS and J. I. ENGLAND.

S. A. MORSE was elected president last week of United Fuel Investments, Ltd., subsidiary of Union Gas Co. of Canada and Dominion Natural Gas Co. Other officers who were also elected at the annual meeting of the firm are: S. B. SEVERSON, vice president; H. D. HANCOCK, R. L. O'BRIAN, J. A. RICHIE, and D. P. ROGERS, directors; T. P. PINCKARD, general manager of subsidiaries; T. WEIR, comptroller, secretary and treasurer, and F. PALIN, acting comptroller, secretary and treasurer.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Major Buyer Inquiring for 500 Cars Of Gasoline in Group 3 Territory

By H. STANLEY NORMAN

ANOTHER inquiry for approximately 500 cars of motor fuel by a major marketer came into the Group 3 market this week but the tank-car price structure in the inland refining district is floundering around even below current quotations.

The motor-fuel tank-car price was particularly soft in the Chicago district although consumption continues to set new record highs from week to week. Leaded gasoline of 72-74 octane sold on the Chicago tank-car market last week as low as 4 cents, f.o.b. Group 3.

Fuel Inquiries Active

Jobbers in the northern part of the Middle West territory are inquiring for light fuel oils. Fuel-oil buying has been conducted on modest proportions through the expired portion of summer. Jobbers have operated on the theory that current prices will hold for a few weeks and that any general break in crude would depress the market in their favor.

Stiffening of the crude market in Illinois and North Texas precludes any immediate general break in the posted prices. Realizing that fuel-oil quotations will probably move forward early in the consuming season, jobbers are now attempting to build their stocks at current prices against early fall demand.

Recent advantages enjoyed by Oklahoma natural-gasoline producers continued in relation to the general Group 3 market. Twenty-six-pound natural at 2 cents has been the basis for a few spot sales in the Oklahoma territory where plants are advantageously located with reference to the purchasers' refineries. Two tank cars of 14-lb. natural were reported sold last week at 2.75 cents, which is just a shade higher than a base price of 2 cents for 26-lb. material. However, the sale was made to a nearby refinery and consequently the freight involved was negligible.

Within the past few days two or three Oklahoma refiners have turned back natural shipments indicating that shipping schedules may have become excessive. The normal expectancy would be that prices may react slightly even within the Oklahoma territory. Natural-gasoline producers in Texas are selling willingly at or below the Group 3 quotation of 1.5 cents. The volume of business in the North Texas and Panhandle districts is at a disappointingly low level.

The embargo placed on exportation of aviation gasoline by the president last week has temporarily ended the earlier indication that movement of natural to the Gulf Coast might be resumed in the near future. There was an inkling that the bottleneck on the Gulf Coast would open but the lack of interest in natural gasoline on the part of coastal refiners has returned. Quotations on 60-octane motor fuel have dropped to 3⅞ cents, but offerings are said to be abundant at prices substantially below this figure. Brokers reported that supplies of 60-octane gasoline could be located at 3½ cents without difficulty.

Gasoline May Back Up

Barriers across the path of gasoline exports from the Gulf Coast have caused concern in the past few days for Mid-Continent refiners. There is fear that excessive stocks on the Gulf Coast may back up into territory normally served by North Texas, Oklahoma and Kansas refiners. Gulf Coast refiners can move products into the St. Louis and Chicago territories for approximately 43 cents per 100 lb., against freight charges of 40 cents from the Mid-Continent territory. This means that a price concession of only about 0.2 cent per gallon would be sacrificed by Gulf refiners to move products in direct competition with inland refiners.

Elevation of subnormal tank-wagon prices in Indiana and Illinois was inaugurated by Shell Oil Co., Inc., and has received support from the other important marketers. It was too early to determine whether the higher tank-wagon prices will strengthen the tank-car market but some anticipated that this will take place.

Residual fuel oil is in abnormally high demand for this season of the year in the northern part of the Middle West. Jobbers are buying more liberally of heavy fuel oils in advance of the heavy consuming season.

Refined Oil Market Barometer

Depressed condition of the refinery gasoline market continues. Offerings are abundant despite record-breaking consumption in all parts of the country. Jobber inquiries for furnace oils are increasing. Most refiners are storing light fuel oils anticipating that prices will react upward as soon as demand becomes more urgent later this month and in September.

MID-CONTINENT. An inquiry for 500 cars of motor fuel for the account of a major distributor is in the Group 3 market.

EAST COAST. Gasoline tank-car prices remain soft with low-octane material selling at 5½ cents.

GULF COAST. Quotations unchanged despite embargo on aviation-gasoline exports. Business insufficient to test market.

CALIFORNIA. Market stagnant. Export restrictions watched carefully.

CHICAGO. Gasoline prices are soft despite high consumption. More interest in fuel oils has developed from jobbers.

Peak Consumption Fails to Lift Northeastern Gasoline Market

By J. P. O'DONNELL

NEW YORK, Aug. 6.—Despite ample evidence that gasoline consumption reached record heights during the past few weeks, the northeastern gasoline market remained desultory under the contrasting influence of excessive supplies. An estimated 3,000,000 persons were attracted to New York area beach resorts on each of the last few week ends in a mass exodus to escape the heat of the city. The demand this movement implied was the heaviest of the current year, but its only apparent effect, however, was to maintain existing motor-fuel prices and to delay the anticipated reductions.

Under these circumstances, virtually all buying is done only to meet immediate requirements and, as a result, the market continues easy. Low-octane material can be obtained at 5½ cents in the New York Harbor area, but gasoline of better grades is still quoted at 6 to 6½ cents. Reductions in stocks in the last week in July were less than normal in the East Coast area, totaling only 208,000 bbl., or less than 1 per cent. While this total is not greatly out of line with that of a year ago, it is still excessive in relation to current demand.

Revision of its schedule for contract deliveries of gasoline to consumer tank-wagon accounts in New York and New England, effective Wednesday, August 7, has been announced by Socony-Vacuum Oil Co., Inc. Under the new schedule, commercial business will be quoted as follows, using the commercial consumer price as basis:

Full-compartment deliveries: Accounts buying less than 20,000 gal. annually, plus ½ cent; accounts buying from 20,000 to 120,000 gal. annually, commercial consumer price; accounts buying 120,000 gal. annually and above, less ¼ cent.

Split-compartment deliveries: Delivery of less than a full compartment, 250 gal., plus 1 cent.

Steel-barrel deliveries: Commercial price plus 3 cents.

Prior to the introduction of the new schedule, commercial consumer accounts were quoted on the basis of the tank-car price. In announcing the change, the company stated: "The study which led to this revision was made in accordance with the company's policy of analyzing from time to time all factors entering into the determination of price schedules in order to have them reflect the inevitable changes in the industry and the market." Commercial consumer accounts having contracts more favorable than the new schedule will retain such contracts until their expiration.

Lack of strength on the Gulf Coast is a contributing factor to the weakness in the East Coast area. The Gulf Coast import market was reported unchanged last week with virtually no movement. It was reported that aviation-gasoline prices were unchanged despite the imposition of the embargo. It is apparently too early to estimate the effect of the embargo but it is apparent that its imposition will not benefit the market. One result has been to cause considerable confusion among exporters, drum and barrel makers and ship owners, since these interdependent interests are now entirely dependent on the ability of the exporter to obtain the required licenses.

While there was some additional chartering reported in the Gulf-to-north-of-Hatteras tanker trade in the past week, prices have refused to react accordingly. Several tankers were reported to have been chartered at the rate of 20 cents a barrel on gasoline, 21 cents on kerosene, and 22 cents on No. 2 fuel oil. This rate represents a concession of 1 cent from that previously paid. Three tankers, chartered on this basis, are scheduled for August loading. Whether or not the restrictions on exports will result in additional tonnage becoming available for coastwise service and what effect it will have if such tonnage becomes available before fuel-oil deliveries increase is another factor at present clouding this trade.

The effect of the war on the export oil trade is illustrated in the following table extracted from the Department of Commerce preliminary report on June exports:

Product—	June 1940	June 1939
Crude oil	5,692,000	5,831,000
Gas and fuel oil	3,589,000	4,015,000
Wax*	599,000	807,000
Gasoline	1,887,000	3,771,000
Lube oils	1,065,000	1,093,000

*Pounds, other data in barrels.

Probably the most significant feature of this report is that it shows exports of lubricating oil declined in June from a year ago. In the preceding 5 months of the year, according to U. S. Bureau of Mines reports, exports of lubricants were running approximately 35 per cent ahead of last year. Lubes had been the only major oil product enjoying a favorable export business until this time. It will also be noted that gasoline exports continue low, the June 1940 total being off fully 50 per cent from the exports of June 1939.

The inclusion of lubricants capable of meeting aviation requirements in the products requiring licenses for export cannot aid their position and may impair it. However, the export manager for one major oil company viewed the licensing of lube exports merely as a nuisance factor that was unlikely to affect the export total greatly. Others were inclined to delay expressing themselves until the full effect of the new order could be studied.

There were no changes in the Pennsylvania lubricating-oil market last week with bright and cylinder stocks continued weak and neutrals remaining very strong. Optimism over the neutral market led to the belief that a price improvement may be imminent. Recent concessions in price have failed to stimulate bright and cylinder stocks, however, and their outlook remains

(Continued on Page 111)

Gulf Coast Markets

HOUSTON, Tex., Aug. 6.—With export movement of aviation gasoline to countries outside the Western Hemisphere now restricted by presidential proclamation, several independent Gulf Coast refiners are considering a move to get the federal Government to take off their hands the material that they are prevented from selling.

How far they can get with such a move is a matter of speculation. The viewpoint of these refiners is that if the Government will not permit them to move this gasoline when they have a chance to sell it, they should not be the ones to carry the load. The chief obstacle in the way of the Government's taking this gasoline, however, is that the material does not meet the U. S. Government's specifications for aviation gasoline.

No important changes were evident in the general Gulf Coast refinery-market picture the past week. These refiners, processing largely for gasoline production, continue in a difficult position with excessively heavy stocks and no new business to lift them or prevent further accumulation. Refiners whose operations are directed more to fuels and burning oils are in better shape and more optimistic. Movement of these products is keeping up fairly well with production, and with summer drawing to a close and the autumn season of new buying about at hand there is reason to believe that these markets will not experience further weakening.

(Continued on Page 111)

A.P.I. Weekly Refinery Statistics

Week Ended August 3, 1940

	Capacity reporting (per cent)	Total gasoline stocks (bbl.)	Residual fuel-oil stocks (bbl.)	Gas oil and distillate stocks (bbl.)	Daily crude runs (bbl.)
East Coast	100.0	22,221,000	10,293,000	13,982,000	560,000
Appalachian	91.0	3,459,000	461,000	411,000	115,000
Ind., Ill., and Ky.	90.2	15,304,000	3,348,000	4,783,000	551,000
Okla., Kans., and Mo.	76.9	6,536,000	2,042,000	1,455,000	257,000
Inland Texas	59.6	1,653,000	1,428,000	351,000	104,000
Texas Gulf	85.3	13,045,000	6,761,000	6,071,000	826,000
Louisiana Gulf	97.6	2,715,000	1,525,000	1,361,000	117,000
N. Louisiana and Ark.	51.5	533,000	497,000	257,000	44,000
Rocky Mountains	55.5	1,052,000	532,000	113,000	52,000
California	87.3	15,954,000	77,827,000	9,999,000	501,000
Total reported	85.3	82,472,000	104,714,000	38,783,000	3,127,000
Est. unreported	.....	7,020,000	2,205,000	1,665,000	383,000
*Est. total	.....	89,492,000	106,919,000	40,448,000	3,510,000
*Est. total previous wk.	.....	90,173,000	105,924,000	38,981,000	3,555,000
*Aug. 4, 1939	.....	77,488,000	115,544,000	35,488,000	3,445,000

*Bureau of Mines.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ended July 27, 1940	262,579,000 barrels
Week ended July 20, 1940	261,596,000 barrels
Week ended July 29, 1939	268,513,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of August 6, 1940

Taxes

The gasoline quotations given in the following tables include the 1½-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dir.	Gasoline Incl. tax	Kero. tank wag.
Chicago, Ill.	15.6	13.6	4.5	10.0
Decatur	14.6	13.1	4.5	9.5
Joliet	15.6	14.1	4.5	10.0
Peoria	15.6	13.2	4.5	10.0
Quincy	15.4	13.9	4.5	9.8
Davenport, Ia.	15.6	14.1	4.5	‡10.0
Des Moines	15.4	13.9	4.5	‡9.8
Mason City	15.8	14.3	4.5	‡10.2
Duluth, Minn.	17.4	15.9	5.5	10.8
Mankato	17.0	15.5	5.5	9.0
Minneapolis	17.0	14.0	5.5	10.4
LaCrosse, Wis.	17.0	15.5	5.5	10.4
Green Bay	17.4	15.9	5.5	10.3
Milwaukee	16.8	15.3	5.5	10.2
Detroit, Mich.	14.1	12.6	4.5	7.6
Grand Rapids	13.7	11.7	4.5	9.0
Saginaw	14.7	13.2	4.5	9.3
Evansville, Ind.	17.1	15.6	5.5	†10.5
Indianapolis	17.3	14.8	5.5	†10.2
South Bend	17.3	15.8	5.5	†10.2
Fargo, N. D.	18.2	16.7	5.5	11.6
Huron, S. D.	17.5	16.0	5.5	10.9
Kans. City, Mo.*	14.9	13.4	4.5	8.0
St. Louis*	15.2	13.2	4.5	8.0
St. Joseph	14.9	12.5	4.5	7.9
Wichita, Kans.	13.8	12.1	4.5	7.0

*State tax 2 cents, 1-cent city tax, and 1½-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off; minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective April 18, 1940, f.o.b. Chicago, tank-wagon prices: Standard heater oil, 1-99 gal., 8.75 cents; 100-149 gal., 7.75 cents, 150 gal. and over, 7.25 cents. Stanolex fuel oil No. 1, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7 cents; 400 gal. and over, 6.5 cents. Stanolex furnace oil, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7 cents; 400 gal. and over, 6.5 cents. Stanolex fuel oil A, 1-399 gal., 5.5 cents; 400-799 gal., 4.5 cents; 800 gal. and over, 4.25 cents. Stanolex fuel oil B, 1-399 gal., 5.5 cents; 400-799 gal., 4.5 cents; 800 gal. and over, 4.25 cents. Stanolex Bunker C fuel oil, 1-999 gal., 4.25 cents; 1.000 gal. and over, 3.25 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Cons'r tank wag.	Gasoline Divided dlr.	Gasoline Incl. tax	Kero. tank wag.
Ohio points	16.0	15.0	5.5	*9.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Cons'r tank car	Gasoline Dir. tank wag.	Gasoline Incl. tax	Kero. tank wag.
Atl'tic City, N. J.	12.1	13.2	4.5	7.7
Newark	12.1	13.2	4.5	7.7
Annapolis, Md.	13.85	14.85	5.5	9.5
Baltimore	13.25	14.25	5.5	8.5
Cumberland	14.65	16.65	5.5	10.0
Wash'gton, D. C.	11.50	12.50	3.5	9.5
Danville, Va.	15.45	17.95	6.5	11.0
Norfolk	14.25	16.75	6.5	10.5
Petersburg	14.55	17.05	6.5	11.2
Richmond	14.55	17.05	6.5	10.5
Roanoke	15.75	18.25	6.5	11.0
Charles'n, W. Va.	15.05	17.55	6.5	12 6
Parkersburg	14.35	15.85	6.5	11.2
Wheeling	15.35	17.25	6.5	11.8
Charlotte, N. C.	17.40	17.50	7.5	11.8
Hickory	17.95	19.45	7.5	12.3
Mt. Airy	17.80	19.30	7.5	12.2
Raleigh	17.15	16.5	7.5	11.5
Salisbury	17.45	16.50	7.5	11.9
Charleston, S. C.	15.25	17.75	7.5	9.75
Columbia	16.10	18.60	7.5	11.5
Spartanburg	16.80	19.30	7.5	12.7

Price basis to Essolene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gal., consumer tank-wagon price at time and place of delivery; 100,000 gal. per year, consumer tank-car price plus 0.5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less 0.5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gal. or more, consumer tank-wagon price. Single deliveries of less than 50 gal., 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less 0.5 cent per gallon. The above policy also applies in South Carolina, effective January 23, 1939.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline Cons'r tank wag.	Gasoline Net dlr.	Gasoline Incl. tax	Kero. tank wag.
Atlanta, Ga.	16.0	16.0	7.5	10.0
Augusta	17.5	17.5	7.5	10.0
Macon	17.0	17.0	7.5	9.0
Savannah	16.5	16.5	7.5	9.0
Birmingham, Ala.	17.5	17.5	8.5	9.0
Mobile	17.5	17.5	9.5	8.0
Montgomery	18.5	18.5	9.5	10.0
Jackson, Miss.	16.5	16.5	7.5	9.0
Vicksburg	16.5	16.5	7.5	9.0
Jacksonville, Fla.	14.0	14.0	8.5	8.0
Miami	14.0	14.0	8.5	8.0
Pensacola	17.5	17.5	9.5	8.5
*Tampa	18.5	15.5	8.5	8.0
Lexington, Ky.	14.5	14.5	6.5	9.5
Covington	15.0	15.0	6.5	9.5
Louisville	15.0	15.0	6.5	9.0
Paducah	15.5	15.5	6.5	9.0

Price basis to tank-wagon consumers, effective January 4, 1937, 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

*Temporary discounts to tank-wagon consumers in Tampa 3 cents per gallon below consumer tank-wagon price on Crown gasoline.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline Cons'r tank car	Gasoline Dir. tank wag.	Gasoline Incl. tax	Kero. tank wag.
Philadelphia, Pa.	12.5	14.0	5.5	10.5
Pittsburgh	13.5	15.0	5.5	10.5
Allentown	13.5	15.0	5.5	10.5
Erie	13.5	15.0	5.5	10.0
*Scranton	13.0	14.5	5.5	10.5
Altoona	13.5	15.5	5.5	10.5
Dover, Del.		14.5	5.5	10.5
Wilmington		14.0	5.5	10.0

Price basis to undivided dealers, dealer tank-wagon price less 0.5 cent per gallon.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

*Voluntary discount of 1 cent allowed to dealers only.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank truck	Gasoline Serv. sta.	Gasoline Incl. tax	Kero. tank wag.
San Francisco	16.5	17.5	4.5	11.5
Los Angeles	16.0	17.0	4.5	10.0
Fresno, Calif.	17.5	18.5	4.5	12.5
Phoenix, Ariz.	20.5	21.5	6.5	*17.5
Reno, Nev.	19.5	20.5	5.5	13.5
Portland, Ore.	19.0	20.0	6.5	13.5
Seattle, Wash.	19.0	20.0	6.5	13.5
Spokane	20.5	21.5	6.5	16.5
Tacoma	19.0	20.0	6.5	13.5

*Includes 5-cent state tax.

Discount to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gal. and over, advance quantity discount extended at time of delivery, 3 cents. Service-station schedule applies on single deliveries less than 40 gal. On kerosene in tank-car, transport-truck, and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank wagon.

March 18, 1939, split dealer discount was canceled.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Cons'r tank car	Gasoline Dir. tank wag.	Gasoline Incl. tax	Kero. tank wag.
Albany	11.7	13.5	5.5	7.9
*Met. N. Y.: Manhat., Bronx, Queens, Brklyn., Staten Island	12.2	12.7	5.5	8.2
Buffalo	12.8	13.6	5.5	8.0
Rochester	13.3	14.2	5.5	8.5
Syracuse	12.7	13.9	5.5	8.7
Portland, Me.	11.7	13.8	5.5	8.0
Manchester, N.H.	12.4	12.5	5.5	8.8
Burlington	12.4	14.5	5.5	8.5
Boston, Mass.	10.8	11.8	4.5	8.3
Worcester	11.3	12.1	4.5	8.4
Hartford	11.0	12.0	4.5	8.1
New Haven	10.9	11.0	4.5	8.1
Providence, R. I.	10.7	12.2	4.5	8.3

*Does not include 2 per cent city sales tax, which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective August 8, 1940, the company changed its commercial consumer policy in New York and New England to the following:

Full compartment deliveries: Accounts buying less than 20,000 gal. annually, 0.5 cent above the commercial-consumer price; accounts buying from 20,000 to 120,000 gal. annually, commercial-consumer price; accounts buying 120,000 gal. annually and above, 0.25 cent off consumer price. Split compartment deliveries: Delivery of less than a full compartment, 250 gal., commercial-consumer price plus 1 cent. Steel-barrel deliveries: Commercial price plus 3 cents.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Dir.	Gasoline Incl. tax	Kero. tank wag.
Denver, Colo.	15.5	...	5.5	10.5
Grand Junction	17.5	...	5.5	12.5
Pueblo	15.5	...	5.5	9.0
Casper, Wyo.	16.5	...	5.5	11.5
Cheyenne	14.5	...	5.5	11.0
Billings, Mont.	17.5	...	6.5	11.0
Butte	15.5	...	6.5	13.0
Great Falls	17.5	...	6.5	12.0
Helena	15.5	...	6.5	12.5
Salt Lake, Utah	16.0	...	5.5	14.0
Boise, Idaho	20.6	...	6.5	16.0
Twin Falls	21.6	21.6	6.5	16.5
Albu'que, N. M.	16.0	...	6.5	9.5
Roswell	14.0	14.0	7.0	8.0
Santa Fe	17.0	...	7.0	10.0

*Includes city tax of 0.5 cent. †Includes state tax of 1 mill.

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Cons'r tank car	Gasoline Dir. tank wag.	Gasoline Incl. tax	Kero. tank wag.
New Orleans, La.	14.25	16.75	8.5	†11.0
Baton Rouge	15.25	17.75	8.5	‡10.5
Alexandria	15.25	17.75	8.5	‡10.5
Lafayette	15.50	18.00	8.5	‡10.0
Lake Charles	15.25	17.75	8.5	‡10.0
Shreveport	14.00	16.50	8.5	‡9.0
Knoxville, Tenn.	18.50	20.00	8.5	12.5
Memphis	16.50	18.00	8.5	11.0
Chattanooga	18.00	15.75	8.5	12.0
Nashville	17.50	18.0	8.5	11.5
Bristol	18.75	18.00	8.5	12.0

Essolene at dealer price less 0.5 cent per gallon to undivided dealers.

†Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gal. or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gal. at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Incl. tax.	Kero. tank wag.
Texarkana, Ark.	13.5	5.5	7.0
Fort Smith	15.0	5.5	8.0
Little Rock	17.25	8.0	8.0
Muskogee, Okla.	13.0	5.5	7.0
Oklahoma City	11.5	5.5	6.5
Tulsa	12.5	5.5	6.0

Tank wagon represents price to consumers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Dir.	Gasoline Incl. tax	Kero. tank wag.
Omaha	17.0	15.9	6.5	9.0
McCook	17.5	14.4	6.5	9.5
Norfolk	17.5	15.4	6.5	9.9
North Platte	17.8	15.0	6.5	10.2
Scottsbluff	18.4	15.5	6.5	10.5

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Texas

	Gasoline Tank wag.	Gasoline Dir.	Gasoline Incl. tax	Kero. tank wag.
Dallas, Tex.	11.5	15.5	5.5	6.0
Fort Worth	11.5	15.5	5.5	7.0
Houston	12.0	16.0	5.5	8.0
San Antonio	12.5	17.0	5.5	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	16.2
V.M.&P. naphtha	16.5
Cleaners' naphtha	15.5
Stanisol	15.5

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Canada*

3-Star Imperial Gasoline

IMPERIAL OIL, LTD.

	Gasoline Tank wag.	Gasoline Incl. tax.	Kero. tank wag.
Halifax, N. S.	24.5	10.0	18.0
St. John, N. B.	24.5	10.0	18.0
Montreal, Que.	24.0	8.0	16.5
Toronto, Ont.	24.0	8.0	16.5
Hamilton, Ont.	24.0	8.0	16.5
Winnipeg, Man.	27.0	7.0	21.5
Brandon, Man.	28.0	7.0	22.5
Regina, Sask.	25.0	7.0	20.0
Saskatoon, Sask.	28.0	7.0	23.0
Edmonton, Alta.	25.9	7.0	20.0
Calgary, Alta.	23.0	7.0	18.0
Vancouver, B. C.	21.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Continental Oil Co. reduced the tank-wagon price of regular gasoline at Helena, Mont., 1 cent per gallon on July 25.

Effective at noon, July 24, Standard Oil Co. of Louisiana advanced the dealer tank-wagon price on gasoline 2.1 cents per gallon at Nashville, Tenn., and on July 30 reduced it 1 cent.

Effective Aug. 1, Standard Oil Co. of Indiana advanced the tank-wagon price of gasoline 0.5 cent at Decatur, Ill.

Effective July 24, Socony-Vacuum Oil Co., Inc., reduced the dealer tank-wagon price at New Haven, Conn., 0.4 cent per gallon. Socony-Vacuum changed its commercial consumer policy Aug. 8, details of which appear below the price table on the retail-market page.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted.

Prices as of August 6, 1940

The quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils. Octane ratings in Middle West, Mid-Continent, and Southwest are based on A.S.T.M. method of testing.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.04½	.04¾
63-66 octane	.04	.04¼
60 octane and below	.03½	.03¾
60-62 400 grades:		
72-74 octane (regular)	.04½	.04¾
63-66 octane	.04	.04¼
60 octane and below	.03½	.03¾

NORTH TEXAS—

U. S. Motor grades:		
72-74 octane (regular)	.04½	.04¾
63-66 octane	.04	.04¼
60 octane and below	.03½	.03⅞
60-62 400	.03½	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
72-74 octane (regular)	.04¾	.05
63-66 octane	.04¼	.04½
60 octane and below	.03¾	.04⅛

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
72-74 octane (regular)		.04¾
60 octane and below		.04

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.04⅝	.04⅞
63-66 octane	.04¼	.04½
60 octane and below	.03⅞	.04⅛
60-62 400 grades:		
72-74 octane (regular)	.04⅝	.04⅞
63-66 octane	.04¼	.04½
60 octane and below	.03⅞	.04⅛

PENNSYLVANIA (inland refineries)—

74-76 octane (regular)		.06
72-74 octane		.05¾

CALIFORNIA (domestic movement)—

58-60 400, 65 oct. and higher	.06¼	.07¼
54-58 U. S. Motor	.05	.06½

EAST COAST (domestic)—

U. S. Motor grades:		
New York (Bayonne)*	.05¾	.06½
Philadelphia	.06¼	.06½
Boston	.05¾	.06
Baltimore	.06¼	.07
Charleston, S. C.	.06¼	.07

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
72-74 octane	.04⅛	.04¼
70-72 octane	.04	.04¼
68-70 octane	.03⅞	.04
65-67 octane	.03¾	.04

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.01¼
Grade 18-55	.01⅛	.01⅜

NORTH TEXAS—

Grade 26-70		.01¼
Grade 18-55		.01⅛

CALIFORNIA—

75-85 375-390	.04½	.05¼

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.01⅛

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03½	.03⅝
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.03⅝	.03¾
46-48 gr., 210-230 l.b.p., 480-max., e.p.	.03¾	.04

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

42-44	.03⅜	.04
41-43	.03¾	.03¾

NORTH TEXAS—

41-43	.03¾	.03¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.03¾	.04

ARKANSAS (Ark. and N. La. del.)—

41-43		.04¼

PENNSYLVANIA (inland refineries)—

46	.04⅞	.05
45	.04¾	.04⅞

CHICAGO (Based on Group 3)—

42-44	.04	.04⅛
41-43	.03⅞	.04

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04½	.05½

NEW YORK (Bayonne, N. J.)—

41-43		.051

GULF COAST (domestic)*—

41-43	.04	.04½

*Barge price ¼ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03½	.03⅝
No. 1 prime white, 38-42	.03¼	.03⅜
No. 1 straw, 38-40	.03¼	.03⅜
No. 2 straw, 32-36	.03¼	.03⅜
No. 3 zero to 10, 28-32	.03⅛	.03¼

NORTH TEXAS—

No. 1 prime white, 38-42		.03½
No. 1 straw, 38-40		.03⅝

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.02⅞	.03

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36	.03¼	.03½

CHICAGO (Based on Group 3)—

Range oil	.03⅝	.03¾
No. 1 prime white, 38-40	.03¼	.03⅜
No. 2 straw, 32-36	.03¼	.03⅜
No. 3, zero to 15, 28-32	.03⅛	.03¼

NEW YORK (Bayonne, N. J.)—

*No. 1		.051
*No. 2		.044
*No. 4		.044

Barge deliveries ⅛ to ¼ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.72½	.77½
No. 6, 15 and above, 8-14	.50	.55

NORTH TEXAS—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.72½	.77½
No. 6, 15 and above, 8-14	.50	.55

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial		.70

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02¾
No. 5, low pour point, 18-22	.75	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pour point, 10-16	.60	.70
No. 6, 15 and above, 10-16	.45	.55

PENNSYLVANIA (inland refineries)—

36-40	.03⅞	.04

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.10	1.25
24 plus diesel, per bbl.	1.10	1.25
24 plus diesel (bunkers)	1.20	1.35
12-16 (bunkers at tidewater)	.75	.90
10-16 (cargo lots)	.65	.90
12-17 (tank cars)	.60	.75
10-17 (high sulfur)	.50	.65
San Joaquin Valley:		
10-18 (tank cars)	.50	.70
24 plus diesel, per bbl.	1.10	1.25
San Francisco:		
24 plus diesel, per bbl.	1.35	1.40
24 plus diesel (bunkers)	1.40	1.50
10-16 (bunkers)	.80	.85

GULF COAST—

No. 2 fuel	.03⅜	.03½
43-47 diesel	.03	.03¼
48-52 diesel	.03¼	.03⅜
53-57 diesel	.03½	.03¾
58-and-above diesel	.03¾	.04
Diesel bunkers		1.50
Bunker C (bulk cargoes)	.80	.85
Bunker C (bunkers)		.80

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.044
28-30 diesel (lighterage 6¼c per bbl.)	1.80	1.85
28-30 diesel (tank cars)		.044
Bunker C (to ocean-going ships in N. Y. Harbor)	1.25	
Industrial fuel (tank cars)	.033	.035

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

200-210 D, 10-25		.18
150-160 D, 0-10		.14
150-160 D, 10-25		.13½
100-110 D, 0-10		.13½
100-110 D, 10-25		.13
Steam refined:		
600 dark green (untreated)		.07

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour point	.14½	.15
15 pour point	.13½	.14
25 pour point	.12	.14
Steam refined:		
600	.08	.09
650	.10	.11
600 flash	.11	.12
630 flash	.12	.13

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

0-10 pour point:		
150-3		.08
180-3		.09
200-3		.09½
250-3		.10⅛
280-3		.11
280-4		.10½
300-3½		.11⅛
350-3½		.12
400-3½		.12⅛
500-3½		.13
600-3½		.13½
100-2½ paraffin oil, 10-25		.05¼
10-25 pour point:		
200-3		.09
250-3		.10
280-3		.10½
280-4		.10

GULF COAST—

Pale oils:		
100-3	.05½	.05¾
200-3	.07¼	.07½
300-3	.07¾	.08
500-3½	.08½	.09
750-3½	.09	.09⅛
1,200-3½	.09¾	.10
2,000-4	.10	.10¼
3,000-4	.12¼	.12½
Red oils:		
200-5-6	.07	.07¼
300-5-6	.07½	.07¾
500-5-6	.08¼	.08⅝
750	.08⅝	.09¼
1,200-3-6	.09⅝	.09⅞

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11¼
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11¼

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point		.22½
10 pour point		.21½
15 pour point		.20¼
25 pour point	.19	.20
200 vis. at 70° F., 3 color:		
Zero pour point		.24½
10 pour point		.23½
15 pour point		.22½
25 pour point	.21	.22

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale	.03⅛	.03¾

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale	.02	0.2½
124-126 (A.m.p.) w.c. scale	.02	0.2½

NEW YORK—

Wax in bags fully refined:		
125-127 (A.m.p.) wax		.0560
128-130 (A.m.p.) wax		.0560
130-132 (A.m.p.) wax		.0580
133-135 (A.m.p.) wax		.0615
135-137 (A.m.p.) wax		.0640
Crude scale:		
124-126 (A.m.p.) w.s.		.02¼
124-126 (A.m.p.) y.s.		.02¼
Petrolatum in barrels, carload lots:		
Dark green	.02250	.02625
Amber	.02375	.02875
Extra amber	.02625	.03000
Lily white	.04375	.05000
Snow white	.05125	.06000
Cream	.03625	.04125

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.04
60-62 400	.04	.04¼
61-63 390	.04	.04¼
64-66 375	.04	.04¼

LOS ANGELES—

U. S. Motor grades:		
Above 69 octane	.06¼	.06½
65-69 octane	.05¾	.06¼
60-65 octane	.05¼	.05¾

KEROSENE

GULF COAST—

41-43 water white		.04

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s in bbl.)—

Cylinder stocks:		
600 S.R. unfiltered		.16
630 S.R. unfiltered		.18
600 flash, S.R.		.19
650 flash, S.R		.21
Bright stock:		
Light, 25 pour point		.22

NEUTRAL OIL

200-3 color		.27
150-3 color		.25

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125	A.m.p.	.05250	.05600
125-127	A.m.p.	.05375	.05600
128-130	A.m.p.	.05600	.05875
133-135	A.m.p.	.06150	.06250
135-137	A.m.p.	.06400	.06500
Crude scale:			
124-126	w.s.	.02⅛	.02¼
124-126	y.s.	.02⅛	.02¼

EQUIPMENT PROGRESS...

PITTSBURGH EQUITABLE; MERCO INSTALL FIELD-SERVICE TRUCK

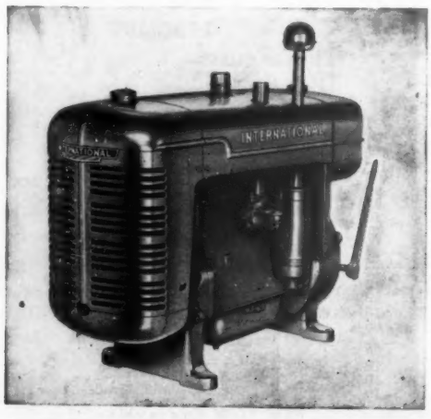
As a service and convenience to their many customers in the Midwest, the Pittsburgh Equitable Meter Co. and subsidiary, the Merco Nordstrom Valve Co., now have in operation, from their Chicago office, a completely equipped field-service truck. This truck is fitted with the necessary tools, lubricants, and test apparatus to handle properly the field maintenance of EMCO and Nordstrom products. It is in charge of Paul Payton, service engineer, who is thoroughly trained in factory methods and maintenance procedure on all the companies' products.

Capt. A. E. Higgins, sales manager, also announced that a similar unit has been ordered for use in the Mid-Continent area, to operate out of the Tulsa office and that additional service trucks would be placed in service in the near future in other sections of the country.

Paul Payton, service engineer, with field truck

Rugged International Power Unit Is Designed for Heavy-Duty Jobs

A new pleasingly styled six-cylinder diesel power unit which develops 100 hp. at 1,400 r.p.m. has been announced by International Harvester Co. As with other



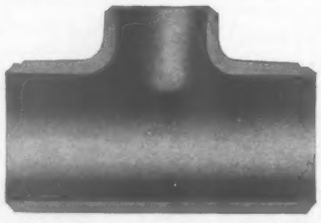
International diesels this new Model UD-18 engine starts on gasoline and, after a minute or less, shifts to full diesel operation. It can be cranked by hand as easily as a gasoline engine of the same size. An inexpensive standard 12-volt electric-starting system may also be utilized.

The new International UD-18 diesel power unit is of rugged, compact construction, provided with a heavy, large-diameter flywheel. It has ample weight (approximately 3,875 lb. less fuel, oil, and water) and reserve strength for heavy-duty service. Cylinders are individually replaceable and are specially heat-treated. Cylinder bore and stroke are respectively 4¾ and 6½ in. Piston displacement is 691 cu. in., regular full-load governed speed 1,400 r.p.m., and maximum torque 430 lb.-ft. at 800 r.p.m.

The seven-bearing crankshaft is a heavy alloy-steel drop forging. In addition to the usual heat treatment, it is Tocco-hardened. This is a high-frequency electrical induction process which provides file-hard bearing surfaces, while the rest of the shaft retains its ductility and toughness. All bearings are replaceable and are diamond-bored to assure accurate size and shape and long life.

New Tube-Turn Steel Welding Tee Provides Regular Pipe Strength

A new line of seamless-steel welding tees with distinctive advantages has been developed by Tube-Turns, Inc., 246 East Broadway, Louisville, Ky. Full pipe strength is attained through the proper placing of metal at points of higher stress rather than by excess thickness throughout and consequent useless weight. It long has been known that stresses due to internal pressure are highly concentrated at the intersection of the outlet with the run of a tee. While not a great deal is known as to the extent and exact location of the maximum stresses existing in the tee it is generally believed that the greatest stress occurs at the crotch and that when unreinforced it may be twice that in straight pipe of the same size under the same pressure.



The new Tube-Turn tee design meets this condition by providing substantially more metal thickness at the crotch. The thickness from this point, that is along the top center line of the run of the tee, is gradually reduced at the bottom of the tee, where stresses, when reinforcement at more highly stressed points is ample, again reach normal.

Another important improvement is that longer outlets are provided for greater ease in lining up and welding. The new Tube-Turn tees are accurately machined, scale-free and stress-relieved.

Greater Strength Provided in New Core-Sample Bags

A new and faster method of manufacturing has resulted in increasing the strength and holding power, and reducing the cost of core bags, announce officials of the Standard Bag Manufacturing Co., 2504 Bryan Street, Dallas, Tex. Through a patented method of draw-string insertion, it is now possible to insert the draw string and stitch the hem in one operation, which effects a considerable saving in time.

The manufacturers also claim to use an improved stitching on side and bottom of bags which insures greater strength and holding power. The illustration shows how the draw string is inserted at top of bag at same time the top is stitched. Also an idea of the sturdy stitching at side and bottom of bag can be obtained from illustration.

New Gatke Friction Material For Brakes and Clutches

Entirely new performance characteristics have been achieved in a new type of asbestos friction material for brake lining and clutch facings, developed by the Gatke Corp., Chicago. This new product is a combination of moulded and woven structures in proper balance to retain the best qualities of both.

It is claimed that severe laboratory tests and hard service on a wide range of tough applications show this woven moulded combination maintains a high frictional coefficient with extraordinary uniformity under widely varying conditions of load and temperature. On a number of particularly severe applications where the service life of ordinary materials is but a few days, this new friction material is giving many months of trouble-free service. This new development can be furnished to accurate dimensions in all shapes and sizes for brake and clutch requirements.

Bridgeport Opens Nebraska Branch

The State of Nebraska gets its first oil-field-equipment supply store this month with the opening of the Bridgeport Machine Co.'s branch store in Falls City. Forest City basin operators of Nebraska and northeastern Kansas can now obtain locally equipment which has heretofore been brought to the locality from quite a distance. The new store has been stocked with a complete line of cable and rotary-drilling tools, rental fishing tools, pipe and the general supplies required for drilling and producing in the territory.

NEW McEVOY GAS LIFT FEATURES VALVE-OPERATING PRINCIPLE

A new gas-lift system, featuring a unique valve operating mechanism that admits gas into the tubing only at the lowest possible point, has been announced by the McEvoy Co., Houston, Tex. It has seen over 2 years' field service. The low gas-fluid ratios claimed for this system are due to the fact that all gas is admitted at the lowest possible point to realize greatest lifting efficiency. The new valve-operating principle permits wider spacing with resultant lower installation costs, and it insures positive control of valves without the necessity of a manual surface control.

This valve is operated by the weights of two columns of fluid acting on opposite sides of a diaphragm. When the volumn of fluid in the well tubing is dead (Fig. 1) it is the same density as the equal column of well fluid in the oil tube, so the pressures on both sides of the diaphragm are balanced and the valve opens, admitting gas to the tubing. Notive that gas is admitted above the fluid columns so as not to interfere with the operation of the valves. Should gas be induced from below this valve, either from a lower valve or from the formation, the weight of the fluid in the well tubing becomes less (Fig. 2) and exerts less pressure on the front side of the diagphragm. This allows the weight of the volumn of fluid in the oil tube to press on the back of the diaphragm and positively close the valve.

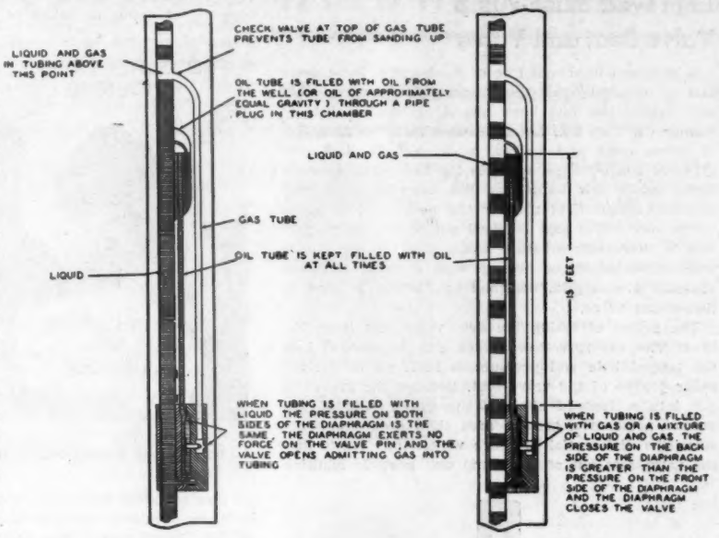
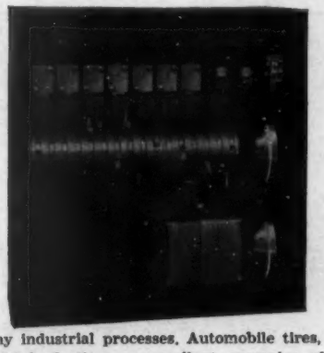

LIQUID AND GAS IN TUBING ABOVE THIS POINT
CHECK VALVE AT TOP OF GAS TUBE PREVENTS TUBE FROM SANDING UP
OIL TUBE IS FILLED WITH OIL FROM THE WELL (OR OIL OF APPROXIMATELY EQUAL GRAVITY) THROUGH A PIPE PLUG IN THIS CHAMBER
LIQUID AND GAS
GAS TUBE
LIQUID
OIL TUBE IS KEPT FILLED WITH OIL AT ALL TIMES
15 FEET
WHEN TUBING IS FILLED WITH LIQUID THE PRESSURE ON BOTH SIDES OF THE DIAPHRAGM IS THE SAME, THE DIAPHRAGM EXERTS NO FORCE ON THE VALVE PIN, AND THE VALVE OPENS ADMITTING GAS INTO TUBING
WHEN TUBING IS FILLED WITH GAS OR A MIXTURE OF LIQUID AND GAS THE PRESSURE ON THE BACK SIDE OF THE DIAPHRAGM IS GREATER THAN THE PRESSURE ON THE FRONT SIDE OF THE DIAPHRAGM AND THE DIAPHRAGM CLOSES THE VALVE

FIG 1 FIG 2

All the valve mechanism is mounted on the outside of the tubing—leaving a streamlined passage through the tubing to permit running a bottom-hole pressure bomb or other instruments in the well. Among advantages claimed for the McEvoy "fluid weight" gas lift are simple, low-cost installation, ease of operation, dependability, long life, and ability to produce at low gas-fluid ratios.

New Taylor Instrument Permits Maximum Precision of Timing

Precise timing of the sequence and duration of operations involving temperature, pressure, humidity or combinations of each often means success or failure



for many industrial processes. Automobile tires, tubes, and molded plastics are excellent examples of products where lower costs and increasingly higher qualities have resulted by the use of time-cycle controllers. Adaptable for all-electric, all-pneumatic operations, or combinations of both, the Flex-O-Timer, introduced by the Taylor Instrument Companies, of Rochester, N. Y., permits maximum precision of timing with minimum labor and expense.

In the oil industry the catalytic-cracking process provides an interesting application of the Flex-O-Timer, it being used to recharge the catalyst on a predetermined time basis.

Extreme flexibility is obtained by the use of adjustable pins on the revolving drum. Cam cutting is eliminated and the actuating pins are easily and precisely adjusted in circumferential undercut grooves on the one-piece drum and locked in place with a screw. The air valve or switch can be turned on and off or vice versa, within one-half of 1 per cent of total cycle time by means of this extreme adjustability.

A new latch-trip solenoid operated mechanism starts the process instantaneously. This actuates one or more snap operators to start the timer motor which is of the high-torque, fan-cooled synchronous type, and any outside electrical or pneumatic functions to be performed simultaneously at the start of the cycle. An external push button or limit switch can be used to provide the electrical contact to start this process.

Enardo Adds Latch-Type Gage Hatch to Tank Equipment

Adding another proven design of vacuum-pressure valve to the already large line of gravity control and tank equipment, Enardo Foundry & Manufacturing

Co., Tulsa, has just announced its new 660L latch-type gage hatch. The illustration clearly shows the large basin provided in this valve. This feature furnishes additional protection to the gager, keeps to a minimum the amount of oil splashed, and affords longer life with less maintenance expense to tank equipment.

This provides another style to the Enardo Series No. 660 type valves; all 8-in. diameter with 6, 8, or 16 oz. pressure and 0.04 and 1-oz. vacuum.

TRADE LITERATURE

C. A. ROBERTS CO., 20 South Aberdeen Street, Chicago.—Bulletin, Shelby seamless-steel tubing.

MORSE CHAIN CO., Detroit, Mich.—16-page booklet, engineering data on Morse dual engine drives, with free-wheeling clutch couplings.

BLACKHAWK MANUFACTURING CO., Milwaukee, Wis.—Catalog 240, Blackhawk wrenches for industry and construction, automotive and aviation, 40 pages; also bulletin on Blackhawk torque indicators.

HEWITT RUBBER CORP., Buffalo, N. Y.—Summer edition of Hewitt Magazine.

LEHIGH SAFETY SHOE CO., INC., Allentown, Pa.—Catalog 9, Lehigh steel safety-toe rubber boots and shoes, with illustrated buyers' guide.

FISHER GOVERNOR CO., Marshalltown, Iowa.—Bulletin 703, containing complete information on low-pressure gas-service regulators of the company's Series 730 regulators; including its new 733A regulator with built-in relief valve, 730 and 730H without relief valve, 738 and 739 safety shutoff service regulators and 289U safety relief valve for use on any service regulator.

OAKITE PRODUCTS, INC., 22 Thames Street, New York.—Booklet describing how a recently developed material, Oakite Compound No. 32, is successfully meeting a wide range of scale and rust-removal problems in the producing and refining branches of the industry.

BROWN INSTRUMENT CO., Philadelphia, Pa.—Catalog 6705, covering the complete line of circular-case thermometers and pressure gages, indicators, recorders and controllers; constructional features of the electric controller are illustrated and principle of operation is described.

READING-PRATT & CADY DIVISION, American Chain & Cable Co., Inc., Bridgeport, Conn.—New booklet on bar stock valves containing complete information, dimensions and application recommendations for bronze, carbon steel, and stainless steel bar stock valves.

E. I. DU PONT DE NEMOURS & CO., Wilmington, Del.—Booklet entitled, "'Dulux' White for Tanks," pointing out advantages of this new finishing material and offers a discussion of the development, qualities and uses of the new finish and covers the four essential factors in successful painting of tanks for protection and reduction of temperature.

BUCKEYE TRACTION DITCHER CO., Findlay, Ohio.—Bulletin 45, describing its new Model 410 boom-type trencher, a small fast trencher capable of passing through an opening less than 7 by 8 ft. The unique constant-center bucket-line drive and simple automotive-type controls are illustrated and described.

AIR REDUCTION CO., 60 East Forty-second St., New York.—12-page bulletin on flame hardening apparatus, describing specifically the Airco Style 4383 water-cooled flame hardening torch and the variety of extensions and types of tips available for use with it. It includes special equipment such as torch holders, adjusting arm and a discussion of the use of the Airco No. 4 Radiagraph, a portable machine especially serviceable for mounting the flame hardening torch.

Grove Regulator Opens Modern Assembly Plant at Houston

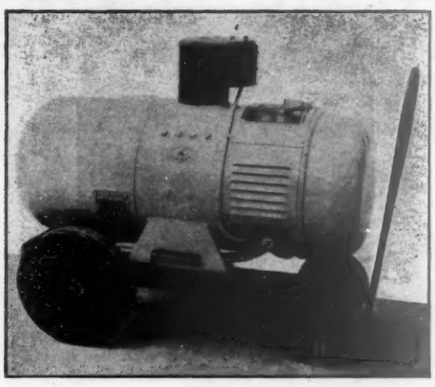
Providing greatly increased engineering and service facilities to producing companies and supply stores in the Mid-Continent and Gulf Coast areas, Grove Regulator

Co. of Oakland, Calif., has opened new offices and a modern assembly plant at Houston, Tex., according to an announcement by M. H. Grove, president. With the establishment of this new factory sales and service branch, deliveries from Houston can now be made to any point in these areas not later than the following day. Complete stocks of Grove regulators, accessories and replacement parts will be maintained to meet ever increasing demands.

This new branch will be under the active management of Douglas H. Annin, vice president, assisted by Vernon B. Gresham and Burton J. Matteson, Jr. Grove's established sales policies and distribution through supply stores will remain unaltered. Representatives will continue as heretofore in West Texas, Oklahoma and Kansas, East Texas, Louisiana, Mississippi, Arkansas and the Rocky Mountain states, according to Mr. Grove.

Remote-Control Device Allows Fine Adjustments of Current Output

A new device for remote control of Wilson Hornet arc welders has been announced by Wilson Welder & Metals Co., Inc., New York. The single control of the



Hornet is well adapted to operation by this method. The handwheel which governs the control pole of the standard welder is simply replaced by the reversible motor-driven Type SC remote-control device.

Said to cover the entire range of the machine to which it is attached, in both high and low settings, the new device allows minute adjustments in current output by merely touching one of two contacts on the electrode holder to the ground. When the electrode holder button marked "more" is brought into contact with the ground, the electric motor in the remote-control housing on top of the machine revolves and raises the control-pole core, increasing the output. The motor revolves only while control is maintained.

When the button marked "less" is grounded, the remote-control motor revolves in the opposite direction and lowers the control-pole core, decreasing the output. The contact buttons are shaped differently, so that the operator can easily locate the correct one even in poor light.

Vertical Single-Phase Motors Of Fairbanks-Morse Design

Joining the comparatively few companies manufacturing integral horsepower vertical single-phase motors, Fairbanks-Morse has recently announced a line of this equipment in sizes from ¾ to 5 hp. which, because of its electrical and mechanical characteristics, is unusually adaptable to operate in isolated localities where small pumping units are so often located. Dripping or splashing water will not harm these motors under normal operating conditions since the design prevents water from reaching vital parts. The frame, bearing brackets, and enclosing covers give maximum protection consistent with adequate ventilation.

Solid or hollow-shaft modifications can be furnished. The solid-shaft units are usually direct connected to a pump or machine through a flexible coupling. The hollow-shaft unit is particularly well adapted to vertical-pump applications because of the advantages of compactness, permanent shaft alignment, and high-thrust capacity. The pump shaft is held in place by adjustable lock nuts above the upper motor bearing, which is designed to support the entire thrust load including weight of the shaft, rotating parts of the pump and the load imposed by the column of liquid being lifted. Protecting against accidental damage due to unscrewing of the pump shaft is a two-jaw clutch which disengages the motor from the pump should the motor be accidentally connected for reverse rotation.

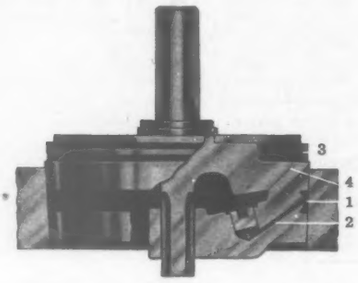
Operating speeds are 1,200, 1,800, and 3,600 r.p.m. All 1,800-r.p.m. and lower speed motors are built in the repulsion-start induction-run type. As the name implies they start as a repulsion motor with each two pairs of brushes short circuited and at a predetermined speed a centrifugal device short circuits the entire commutator allowing the motor to come up to speed and operate as an induction motor. The 3,600-r.p.m. ratings differ slightly since they do not require a short-circuiting device in the armature. They start as a repulsion motor and as the speed rises, the deeply imbedded squirrel-cage winding in the rotor picks up a large portion of the load automatically in much the same manner as does the inner winding of a double-squirrel-cage rotor in a polyphase motor.

Improved Slush-Pump Valve Seat and Valve

A new and improved line of slush-pump valve seats and valves, designated the Hamer E-Z Out valve seats and valves, has just been placed on the market by Hamer Oil Tool Co., Long Beach, Calif. The new line of valve seats and valves, made for all sizes and types of slush pumps, replaces the line formerly marketed under this name and has been underdevelopment in actual field use for the past year or more.

The new valve seat is lifted out of the pump port seat by hydraulic pressure alone, without the use of mechanical pullers or heating with a torch. A superpressure grease gun, designed by Hamer, is used in lifting the valve.

The action of lifting the new valve seat is as follows: The superpressure grease gun is screwed into the tapped hole and pressure is built up in the annular groove of the valve seat. Because the groove is cut into a tapered surface, the upper side of the groove presents a greater area than does the lower side. The differential pressure which thus exists lifts the valve seat out of the pump seat port. In addition



The new Hamer slush-pump valve seat and valve, showing (1) the valve-seat insert; (2) grease channel; (3) valve-insert retaining ring, and (4) angular surface which prevents breaking down of metal at point of contact

to the lifting tendency, the valve seat is compressed slightly. The Neoprene valve seat insert prevents grease from escaping from the groove until the valve seat is entirely free, and is the medium through which the pressure is exerted. The manufacturer claims that no matter how tightly the valve seat may be forced into the pump seat port it can be readily lifted by means of the pressure built up with the superpressure grease gun. This gun uses ordinary grease found on the drilling rig, is filled through a convenient high-pressure grease connection without being disassembled, holds enough grease to lift several of the largest size valve seats, and will exert a pressure several times that of the heavy-duty grease guns used in high-pressure lubricating.

Axelson Rods in World's Deepest Pumping Well

The J. E. Pettijhon Co.'s No. 1 El Ray Westmorland, at Western and Imperial boulevards in Los Angeles, is pumping from the 8,540-ft. level to produce 60 bbl. per day for a world's depth record for pumping wells. Through a string of 2½-in. upset tubing the 1½-in. bore Axelson pump produced 360 bbl. of fluid on a 24-hour test. A 66-in stroke was used, 18 s.p.m. The fluid level dropped from 6,000 ft. to bottom and the speed was reduced to 16 s.p.m. and the stroke to 42 in. for the production of 60 bbl. The rod string on this hookup is Axelson No. 59, 30-ft. rods; 1,780 ft. of 1-in. rods, 1,960 ft. of ⅞-in. rods and 4,800 ft. of ¾-in. rods connected by Axelson hardened and ground couplings. The Axelson 1½-in. by 20-ft. A.P.I. chromo polished rod carries an approximate peak load of 27,000 lb. This represents an approximate stress of 34,400 lb. per sq. in. on the top 1-in. sucker rod. The approximate stress range is 17,370 lb. The pump used is a 2½-in. by 1½-in. by 15-ft. by 18-ft. Axelson R.S.L. stationary bottom lock pump complete with 60-in. chromium-plated Perry-Barnwell plunger with hard cast-iron liners, Axloy seats and balls and anchor holddown.

BS&B Gaging and Thiefing Systems Offer Advantages

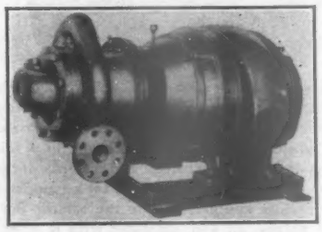
Gaging tanks by conventional methods, and thiefing oil without opening the thief hatch without loss of pressure or exposing corrosive fluids to the oxygen,

are now practical operations, according to claims made by Black, Sivalls & Bryson, Inc., Oklahoma City, Okla., for new BS&B tank-gaging and tank-thiefing systems. The secret of the new devices is a method of "lubricating" the gage tape and the thief into the tank without opening it to atmosphere. In addition to preventing evaporation losses, other important advantages, of the gaging and thiefing systems are pointed out by the manufacturer. In sour-oil countries, for example, corrosion of tanks will be lessened, and in some instances stopped entirely, because so long as the stock tank is kept under pressure, the contents are not exposed to oxygen in the air.

"Gases and fluids do not attack the tubing, well connections, separator, or pipe lines to storage tanks. They will not attack the tanks either if the tankage is kept under gas pressure by means of the BS&B gaging and thiefing systems," according to the manufacturer's literature on the new devices. Elimination of the necessity for gagers to wear gas masks against poisonous gas in certain sour-oil areas is also claimed for the new equipment. The illustration shows BS&B gaging system for pressure gaging only. Another model combines both the gaging and thiefing system.

Allis-Chalmers Extends Line Of Multistage Unit Pumps

Allis-Chalmers Manufacturing Co., Milwaukee, Wis., recently extended its line of multistage "SSUnit" pumps in which the motor and pump housings are bolted to-



gether for compactness. This includes a new two-stage pump with 4-in. suction and 2-in. discharge that can be rated up to 275 g.p.m. against heads up to 500 ft. at a speed of 3,550 r.p.m. The new pump, like the company's smaller multistage pumps of this type, has cast-iron casing and cover, and is bronze fitted throughout. The impellers are placed back to back to provide axial balance. The cover can be readily taken off, permitting the inside parts to be removed without disconnecting the suction and discharge piping. The stuffing box on the pump is only subjected to suction pressure.

This unit can be furnished with either an open, splashproof, totally enclosed, or explosionproof motor. It is suitable as a small boiler-feed pump or pipe-line pump. It can be used in humidifer work, air-conditioning service, oil loading and many other small capacity, high-pressure services.

AMONG EQUIPMENT MEN...

Republic Issues New Chart of Stainless-Steel Properties

Republic Steel Corp., Cleveland, Ohio, has just released a handy four-page, letter-head-size folder which contains a table listing the analyses and properties of 13 of the most popular types of Enduro stainless steel. For comparison purposes, identical data for a carbon steel, S.A.E. 1020, are listed. The chart includes the American Iron and Steel Institute type numbers, approximate chemical compositions, physical properties electrical properties and mechanical properties. In addition, heat treatment is indicated, heat resistance is shown and fabricating properties, including welding, machining and drawing or stamping, are described. Copies of the chart (identified as Chart 381) may be obtained from the company.

Federal Announces Number Of Block Improvements

The Federal Alloy Block Co., Cincinnati, Ohio, manufacturer of tackle blocks, snatch blocks and accessories for marine and industrial service, has announced a number of important improvements in their blocks for manila and wire-rope service which contribute to greater safety, lifting capacity, efficiency and low maintenance cost. The enlarged safety straps and extra large diameter pin construction at sheave and becket is exclusive, and the straps have same amount of material surrounding pin holes as in main body of strap. No material is sacrificed to admit either sheave pin or becket pin. The shells are of improved design so as to afford protection to the line and have exclusive demountable advantages for the inspection of all parts and for replacements.

Special durable aluminum alloy shells are available for manila rope. Malleable iron and cast-steel shells are also made for manila or wire rope. An essential element in the special aluminum alloy smoothes the surface of the rope, instead of fraying it, thus preserving its strength and prolonging its life. Its adoption will reduce cordage bills and accident hazards, Federal claims.

Rivets are eliminated in the blocks, which have fewer parts, and are secured by heavy steel sleeves which grip

shell lugs and members securely. The cost of replacement parts is nominal. To meet special requirements the company supplies its improved shells of any other material which can be cast, such as cast steel, malleable iron, brass, bronze, rubber, bakelite, fiber, glass, etc. The company also has invented improved roller bearings with extra large diameter rolls for the sheaves of these blocks. These bearings are extremely efficient, inexpensive, easily removed from hub of sheave, quickly disassembled, repaired, cleansed, greased, and replaced without use of tools.

Wise and Turner Join Sales Engineering Laboratories

C. W. Turner

James O. Wise

James Orr Wise, formerly electric-meter engineer for Cia Venezolana de Electricidad in South America, and since 1936 a district sales representative for oil-well pumps, has joined the staff of Engineering Laboratories, Inc., Tulsa. Mr. Wise was an engineering student at Kansas University. In the capacity of sales engineer he will cover the states of Kansas, Illinois, Missouri, and Wyoming.

Charles W. Turner joins the staff of E.L.I. as sales engineer, covering Texas, Mississippi, Louisiana, and Arkansas. His headquarters will be in Houston. Mr. Turner has been active in oil-equipment merchandising since 1937. He attended the engineering schools at Kansas State University and the University of Oklahoma. For the present both Mr. Wise and Mr. Turner will be actively engaged in introducing the new Humble type subsurface recording equipment, designed by Humble Oil & Refining Co. and manufactured and serviced exclusively by Engineering Laboratories at its plant in Tulsa.

W. S. Proctor to Represent O. C. T. in California

Oil Center Tool Co., Houston, Tex., appointed W. S. Proctor as its factory representative in California, effective June 15. For 14 years prior to joining Oil Center Mr. Proctor was engaged in oil-field equipment sales work in the Gulf Coast and Mid-Continent areas. He has established residence and offices in Santa Ana, Calif.

BUSINESS NOTES

The Warner Lewis Co., Tulsa, has been appointed oil industry distributor for the Westco Pump Co. of Davenport, Iowa, manufacturers of turbine pumps for crude oil, gasoline, water, etc.

Miller Sand Pump Co., with general offices at Oklahoma City, Okla., has appointed Val R. Wittch, Jr., 30 Rockefeiler Plaza, New York, as export representative for their line of bailers and sand pumps. The Miller company maintains domestic sales offices in Kilgore, Tex.; Salem, Ill., and Sapulpa, Okla.

D. K. Hutchcraft, Mid-Continent sales manager of Clark Brothers Co., Inc., has returned to his Tulsa office after being absent for most of the month of July. A business trip in Colorado Springs and vicinity occupied the earlier part of the month, followed by a 10-day visit in Miami Beach, Fla.

Herbert Hoover, Jr., president of United Geophysical Co., who left Los Angeles in May for South America where his company is doing extensive geophysical prospecting work, is now in Buenos Aires, Argentina. He expects to visit Brazil, Colombia, Venezuela and other South American countries before returning to the United States.

McMurry Field Representative For New McEvoy Gas Lift

McEvoy Co., Houston, Tex., has announced the appointment of E. D. McMurry as special field representative for the company's new "fluid weight" gas lift. Mr.

McMurry was for 4 years field sales and service man for the Guiberson Corp. and during that time he gained considerable experience with gas lifts. He will have headquarters at the company's main office in Houston.

Russell to Head Oceco Sales

The Johnston & Jennings Co., Cleveland, Ohio, has announced the appointment of Murray Russell as sales manager of its Oceco Division, tank fittings, vents, flame arresters, etc., reporting to Hart H. Fleming, vice president, manager of the company's other lines. Mr. Russell for the past 10 years has been in Bethlehem, Pa., New York City, and Pittsburgh, Pa., with the Byron Jackson Co., and is widely known throughout the petroleum industry.

Howard Joins Oilfield Equipment

James H. Howard is now with the Oilfield Equipment Co., Inc., New York City, as sales engineer. Mr. Howard is well known in the equipment field, especially on the Gulf Coast where he was chief engineer for McEvoy Co., for which Oilfield is exclusive export representative. Mr. Howard recently completed an extensive tour of oil-producing countries in Latin America. He is a graduate of Rice Institute in mechanical engineering and has specialized in equipment for the oil industry.

Appointed Assistant Sales Engineer

A. Oakleigh Bush has been appointed assistant chief sales engineer of the abrasive division of Norton Co., Worcester, Mass. Mr. Bush has been with Norton Co. for about 16 years, first in the electric-furnace plant at Niagara Falls and then in the research and sales engineering departments at Worcester. In 1937 he was transferred to the Norton London office and later to the English plant at Welwyn, becoming its acting general manager in 1939.

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Patents obtained — infringement practice in all Courts—oil field experience. 1807-11 Tower Petroleum Bldg., Dallas; 2014 Second Nat'l. Bank Bldg., Houston. 506 Aztec Building, San Antonio, Tex., 457 Munsey Building, Washington, D. C. Address any of these offices.

Leases and Drilling Blocks

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up.—Owners—Address Attorney, Box 1122, Little Rock, Ark.

BROKERS and SALESMEN

A complete SERVICE. EXPERTS in every department of the Oil Business at your SERVICE; a REAL SET-UP. The best opportunity ever offered you. Leases in large or small lots at
WHOLESALE PRICES
Write today and get started right.
OIL BROKERS EXCHANGE
Santa Fe, New Mexico

CRANE CO., oil possibilities, cheap fee land, 3 mi. E Ward Gulf-Western drilling. J. G. Smith, 215 Littlefield Building, Austin, Texas.

SPECIALIZED Geophysical investigations conducted for petroleum promise. In touch with many opportunities to and for development of drilling blocks. P. O. Box 364, Fort Worth, Texas.

MINING CREEDE COLORADO
Are you interested in mining then write Norman Alspaugh, Creede, Colorado, and learn what the famous oil mining camp of Creede has to offer in the mining industry.

FOR SALE Oil and gas leases and small production located in Kentucky shallow field, also tracts of proven Fluorspar and zinc deposits. Reports on request. W. P. HARLEY, Bowling Green, Kentucky.

PRODUCING Gas or Oil wells bought. Will finance drlg. proven land. Describe fully. Col. Gas, 305 W 8th St., L. A. Calif.

SACRIFICE undrilled royalties in Texas, land in fee in Oklahoma. Write Sta. A, Box 111, St. Petersburg, Fla.

OIL Leases, Forest City Basin, N.E. Kansas, 40-acre tracts and drilling blocks. HARRY HAYNES, Grantville, Kansas.

EAST TEXAS Trinity sand wildcat starting. Close in leases afford you ten to fifty for one bets next sixty days. E. CROFT, PROCTOR, TEXAS.

Leases and Drilling Blocks

NEW MEXICO
STATE OIL AND GAS LEASES
40 acres and multiples thereof. In the Hot Spots. Buy direct. Save those dollars. No middle man to pay; no salesman to bother you! Twenty years in the business without a complaint. Write for information.
HARRY S. WRIGHT
New Mexico State Lessee
Wright Bldg., Farmington, New Mexico

CRANE-WARD County 20 ac. cheap in fee, under Magnolia lease. J. G. SMITH, 215 Littlefield Bldg., Austin, Texas.

NEW MEXICO
Oil and Gas Leases and Royalties.
ROY G. BARTON, Hobbs, N. M.

PRODUCTION. Am interested in production offered worth the money. E. B. Reeves, Alanreed, Texas.

FOREST CITY BASIN: Northeast Kansas Sector. Leases and Drilling Blocks, near most promising wildcat. I maintain my own field men and offer the very best buys in the area. P. O. Box 345, Lawrence, Kansas.

DRILLING BLOCK 10,000 acres Huerfano County, Colo. new field offers great opportunities. Heavy wet gas, shallow and deep oil stratas. Want operators for part or whole development. No proration. Have bottom hole money, or sell or arrange percentage leases. S. W. Pressey, Box 614, Pueblo, Colo.

EAST Texas oil leases. $2.00 acre. Near test and large Co. holdings. L. Lahm, 2931 Missouri Ave., St. Louis, Missouri.

WATER FLOODING proven Successful; Why wildcat when positive results can be guaranteed. Have 320 acres with 22 wells fully equipped, 360 feet to sand. Two powers, tanks and pipe line connections. Water and Gas on lease. Cheap. Write H. B. Snyder, Box 126, Ottawa, Kansas.

FEE LAND—2,000 ACRES
WANT Broker or Dealer to handle 2,000 acres fee title land. Potential oil land with good geological report, Cassia County, Idaho. New well location near. Can deed in 5-acre tracts with all oil and gas rights. Write Box K-734, The Oil and Gas Journal, Tulsa, Okla.

Mailing Lists

ROYALTY owners, Oil investors, Unit holders, Stockholders in Oil and Royalty Companies. Personnel lists of every branch of oil industry. All by States. We buy lists. New catalogues ready. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Oklahoma.

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Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

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Geophysical Service

HOMER L. FITCH, GEOPHYSICIST AND LOCATION ENGINEER
WHY drill dry holes? Our method only locates structures which contain oil or gas. Locations made by us will produce or no pay. Drawer 711, Brownsville, Texas.

MAJORS — INDEPENDENTS — WILDCATTERS—When you drill for Oil and Gas wouldn't you like to be sure? The Gravitational Selector works quickly, scientifically, satisfactorily or there is no charge. If you are satisfied pay us from production. Regardless of how you have located your wells heretofore we believe we can give you additional safeguards ahead of the drill. For particulars write Gravitational Selector, 14957 Lakewood Heights Boulevard, Lakewood, Ohio.

For Sale—Maps

R. B. ROBINSON MAPS
Jackson, Miss. 3-Hart Bldg., Across Street from Heidelberg Hotel. Ownership maps All Over Mississippi.

1940 OIL AND GAS FIELD MAP
Texas, Eastern New M. Price $1.00.
Wildcat Map $3.00 Published monthly.
ZINGERY OIL MAP CO., Fort Worth, Tex.

Help Wanted

SUPPLY Company wants young engineer for pump sales, Tulsa area. Some experience necessary. Box K-721, The Oil and Gas Journal, Tulsa, Okla.

WANTED: Manufacturer of Oil field surface equipment wants aggressive sales representative. Must have good selling record and general knowledge of jobber-supply store field operations. Real opportunity for right man. First letter must give complete business history, references, age and salary expected. Box K-731, The Oil and Gas Journal, Tulsa, Oklahoma.

Situations Wanted

REFINERY EXECUTIVE thoroughly trained and experienced in design construction and operation of refineries and the manufacture of all products. Efficient, energetic, diplomatic. Desires permanent connection or design construction and operation on partnership basis. Now employed. Box K-675, The Oil and Gas Journal, Tulsa, Oklahoma.

ACCOUNTANT - AUDITOR, employed, thoroughly experienced in taxes and all phases of oil work, desires connection with good organization where opportunity for advancement exists. For exchange of correspondence write Box K-714, The Oil and Gas Journal, Tulsa, Okla.

CONSTRUCTION superintendent. Eight years' experience construction and maintenance work in oil refinery: Ten years as superintendent on road for construction engineering companies, building from one unit to large sized jobs, familiar with brick, concrete and steel construction. Pipe work from vacuum to high pressure. Can read blueprints and go anywhere. Box K-720, The Oil and Gas Journal, Tulsa, Okla.

PRODUCTION superintendent. Eight years petroleum engineering and superintending production for small company. Experieneed with gas lift, repressuring, pumping wells. Would be interested in minor job that has future. Will travel. Box K-735, The Oil and Gas Journal, Tulsa, Oklahoma.

CHIEF chemist with thirteen years experience with major oil company desires technical or operating position with progressive company large or small. Thoroughly familiar with Dubbs and skimming plant operations, stabilization, treatment of gasoline and light fuels, blending of gasolines and heavy fuels. Box K-732, The Oil and Gas Journal, Tulsa, Okla.

ACCOUNTANT—Office Manager, 12 yrs. experience in oil industry, 2 yrs. public accounting; capable of handling income tax, Social Security and wage-hour matters. Employed but desires change. Box K-730, The Oil and Gas Journal, Tulsa, Oklahoma.

Survey Service

REMEMBER EAST TEXAS
When all other methods fail, employ my divining or dowsing method. If oil exists this method finds it. Faults, broken treacherous areas accurately defined. Our Watson #2, first producer Wilmington, Calif. field, located by this method. More reliable than mechanical geophysics. Ask any unbiased oil authority. Many years' experience. A wise man investigates. George Miller, 1548 Post, Torrance, California.

Wanted

WANTED DRILLER with rotary equipment to drill at once, on 8,000-acre block in Nebraska. H. W. Pieper, De Witt, Nebraska.

WANTED: Competent party for Drilling and Operating Agreement, 480 acres of Federal B land in Twp. 17 S., Range 30 E., N.M.P.M., Eddy County, New Mexico. Address Mrs. Nellie N. Stevens, Las Cruces, New Mexico.

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Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgment is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.55	$3.30	7 Lines	$2.45	$4.20	$5.95	$7.70
4 Lines	1.40	2.40	3.40	4.40	8 Lines	2.80	4.80	6.80	8.80
5 Lines	1.75	3.00	4.25	5.50	9 Lines	3.15	5.40	7.65	9.90
6 Lines	2.10	3.60	5.10	6.60	10 Lines	3.50	6.00	8.50	11.00

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We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Legal Blanks

BURKHART'S legal blanks and general forms serving Mid-Cont. oil field since 1908—Okla. Kans. N. Mex. Tex. Ala. Ark. Fla. Ga. Ill. Ind. Ky. La. Mich. Miss. Mo. Neb. N. Dak. Tenn. Wyo. Free catalog, samples on request. Burkhart Ptg. & Sta. Co. 115 S. Cinn. Tulsa, Oklahoma.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CAPITAL SEEKERS
Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

CORPORATE ORGANIZING and Financing Reorganizations — Transfer Service. Brown Hartwell Company—110 East 42nd St., New York.

Ranches and Farm Lands

BARGAIN fine well improved stock farm, 1,254 acres mostly good level second bottom land, has oil prospects. Waskom Ranch, Naples, Texas.

Financing

JOHN MORRIS, Box 5411, Philadelphia, studied records 5000 financial houses. Found only 191 buy new issues. $4.00.

Personal Notice

WHO was the first driller to use Wyoming Bentonite (swelling clay) to make rotary mud? Address Thos. E. Robinson, Tulsa Loan Bldg., Tulsa, Oklahoma.

Equipment Wanted

WANTED One used gas engine booster capable handling five million gas per day. Box 391, Borger, Texas.

WANTED one paraffin wax mold, must be in good condition. Give complete information first letter. Box K-733, The Oil and Gas Journal, Tulsa, Okla.

For Sale—Equipment

FOR SALE: 5000 ft. 6" No. 1 line pipe. T&C, 55c per ft., f.o.b. St. Louis. Will deliver to any point in Oklahoma or Texas within 1000 miles of St. Louis, for 10c per ft. Valley Steel Products Co., St. Louis, Mo.

REFINERY EQUIPMENT—PRESSURE VESSELS—VALVES & FITTINGS

Liquidating entire Barnsdall Refinery—Okmulgee, Okla.

Latest inventories now available
If you have not received yours, please
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W. C. Berry and H. J. Galamba
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Robt. W. Duden
2100 S. Union, Tulsa, Oklahoma

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St., Cincinnati, Ohio

45-C STAR SPUDDER priced to sell excellent condition; mounted dual tires; 8 inch "A" Pole Mast PA100 International Engine. Located Butler County, Kansas. P.O. Box 135, Eldorado, Kansas. Phone 208.

FOR SALE—One 17x10 Class O-CSD Chicago Pneumatic compressor having compound duplex steam and single stage air cylinders. Cities Service Oil Company, Bartlesville, Oklahoma.

FOR SALE: At Oklahoma City, 1 Muskogee Model "B" skid type well service machine with PA-100 International Motor. I. T. I. O. Company, Bartlesville, Okla.

FOXBORO RECORDING INSTRUMENTS FOR SALE. Temperature Recorder Controllers, Flow Recorders, Pressure Recorders, Vacuum & Pressure Recorder, Recorder Control. A. A. Gilbert Supply, 4037 Mansfield Rd., Shreveport, La., P. O. Box 986.

FOR SALE—Two steam driven 24x12½ x24 Dow surge type horizontal duplex double acting hot oil pumps. Cities Service Oil Co., Bartlesville, Okla.

FOR SALE—Small Tool Joint Specialty Business manufacturing article used everywhere. For further details write Box K-711, The Oil and Gas Journal, Tulsa, Oklahoma.

FOR SALE—Western Kansas, 40 H.P. O.C.S. "Bat" pumping units and 40 H.P. vertical Webber oil or gas engines. Cities Service Oil Company, Bartlesville, Oklahoma.

TRACTORS
Caterpillars, crawler type, size "35," $375; size "65" with nigger-head winch $750; Caterpillar RD8 with bulldozer $2000; Allis-Chalmers Model L with bulldozer $1750. Guaranteed, slightly used. O. C. Evans, Mt. Sterling, Ky.

DIESEL ENGINE GENERATOR SETS
3—260 H.P. Buckeye DIESEL Guaranteed 20% overload for 2 hrs. dir. con. 175 kw. G.E. 2200/440/220/3/60 200 r.p.m. AC Generators complete. Good running condition.
DUQUESNE ELECTRIC & MFG. CO.
Pittsburgh, Pa.

FOR SALE—6,000 ft. 4" reclaimed line pipe, all new threads and couplings; also 1", 1¼", 2", 3", 5", 6", new threads and couplings where needed; pipe from 1" to 4" steam tested. Phone Warren 2171-R or Kane 71.
KANE SUPPLY CO.
Clarendon, Pa.

FOR SALE: 7 ft. x 20 ft. Butane welded storage tanks 125# WP, capacity 6000 gallons. I.T.I.O. Co., Bartlesville, Okla.

FOR SALE

One gasoline drilling rig with two 85 H.P. Waukesha motors and unitized draw works complete.
10,000 Ft. 2⅛" seamless tubing, used in flowing wells only.
10,000 Ft. 7" O.D. 26# seamless casing, once run.
15,000 Ft. 4½" O.D. seamless drill pipe equipped with both regular and full hole tool joints.
In addition to the above we have 20,000 Ft. screw line pipe in Oklahoma; also drilling rig capable of drilling to 6500 feet, complete stock of line pipe, casing, drilling and pumping equipment.
Wire, Write or Phone for Prices.
Louisiana Iron & Supply Co.
Shreveport, La.

FOR SALE—NEW AND USED EQUIPMENT—Young six cylinder Drilling Engines, Cyclone and Waukesha four cylinder Drilling Engines, Marion Single cylinder 25 H.P. Gas Engine with Standard Clutch, Reid Reverse Clutch on skids, Ingersoll-Rand ER1 10 x 8 Compressor, and 10 x 10 Cylinder with Piston. Young Engine Corp., Box 532, Canton, Ohio.

New York Markets

(Continued from Page 103)

decidedly uncertain with no immediate prospects of improvement. The June report of the National Petroleum Association showed inventories of Pennsylvania bright stock up, but with the degree of incidence less than before, and inventories of neutral off from the May total, the first decline since bottom was reached last November.

One encouraging feature of last week's developments was an indication of strengthening in heating oils, though prices remained unchanged with all major suppliers continuing to quote 4.4 cents. Whether or not this is the first indication of normal late-summer improvement remains to be seen. The strengthening in the local market is regarded as a reflection of improvement on the Gulf Coast where prices have been reported firming for some time.

Bunker C continued to be quoted generally at $1.25 at New York Harbor terminals. Contract tops are now generally $1.15 to September 30; $1.25 to December 31, and $1.35 thereafter. Standard Oil Co. of New Jersey, which announced a price revision the first of last week, is now quoting $1.25 at New York, Norfolk and Baltimore port terminals and $1.20 at Charleston. Other leading suppliers who had not previously lowered their quotations moved into line on the new schedule. Demand for Bunker C fuel oil was reported as normal for the season.

Kerosene continued easy with the price unchanged. Virtually all major companies are maintaining their quotations at 5.1 cents, though there are reports of supplies available at 5 cents. However, the continued dullness of this market with little prospective business in the offing has not affected quotations greatly. Industrial fuel oil was reported easier with some material available at 3.3 cents against the generally quoted 3.5 cents. Diesel oil has maintained its position pricewise, though there has been no report of any substantial sales and the price range remains at $1.80-$1.85.

There were some concessions by wax suppliers in an effort to stimulate business. One large company reduced its export prices to a level with domestic quotations in the hope of disposing of increasing supplies but reported no improvement in inquiries. This supplier is now quoting 5.6 cents on 125-27 A.m.p. to 6.4 cents on 135-37 A.m.p. grades. Further evidence of weakness was also noted in scale-wax quotations which were quoted more widely at 2.125 per pound against 2.25 cents in the previous week.

Gulf Coast Markets

(Continued from Page 103)

Kerosene and gas oils, and other burning oils, continue to be available easily, but prices still are fairly steady with gas oils bringing around 3¼ to 3½ cents and kerosenes around 4 cents. On the heavier oils bunker fuel in cargoes was quoted firmly at 80 cents at the opening of the week, a price that has been maintained for several weeks in the face of slack new demand. In anticipation of increased industrial use as a result of the Government's national-defense preparations, the heavier fuels are facing a bright future.

There is no sign of any pickup in gasoline demand. While domestic movement on old contracts still is holding up at record levels, there still is no new business coming in and stocks continue to pile up, and are expected, pending adjustments in operations, to offset the loss of export outlets.

CRUDE-OIL PRICES IN REPRESENTATIVE FIELDS

Complete crude-price schedules are now being published in the first issue of each month. The last complete schedule was published in the August 1 issue. All changes in crude-oil-price schedules will be published completely in the first issues following the announcement of the changes. Following are representative crude-price schedules in barrels (42 gal.):

East Texas	$1.10
Conroe	1.27
Tepetate, Louisiana	1.03
Smackover, Arkansas, heavy	.73
Illinois basin	1.05
Pecos County, Texas	.78
Lance Creek, Wyoming	.77
Bradford, Pennsylvania	2.25

Gravity Schedules

Top prices include all gravities above grades designated, and low prices include all gravities below grades designated:

	Signal Hill, California*	Oklahoma, Kansas	Gulf Coast, Texas
14-14.9	$0.65	....	....
15-15.9	.65	....	....
16-16.9	.65	....	....
17-17.9	.65	....	....
18-18.9	.65	....	....
19-19.9	.69	....	$0.86
20-20.9	.73	$0.70	.88
21-21.9	.78	.72	.90
22-22.9	.82	.74	.92
23-23.9	.86	.76	.94
24-24.9	.90	.78	.96
25-25.9	.95	.80	.98
26-26.9	.99	.82	1.00
27-27.9	1.03	.84	1.02
28-28.9	1.07	.86	1.04
29-29.9	1.10	.88	1.06
30-30.9	1.14	.90	1.08
31-31.9	....	.92	1.10
32-32.9	....	.94	1.12
33-33.9	....	.96	1.14
34-34.9	....	.98	1.16
35-35.9	....	1.00	1.18
36-36.9	....	1.02	1.20
37-37.9	....	1.04	1.22
38-38.9	....	1.06	1.24
39-39.9	....	1.08	1.26
40-40.9	....	1.10	1.28

*Effective Feb. 1, 1940.

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